



**YOUNGSTOWN  
STATE  
UNIVERSITY**

**BOARD OF TRUSTEES  
INVESTMENT SUBCOMMITTEE**

**Anita A. Hackstedde, Chair  
Capri S. Cafaro, Vice Chair  
Molly S. Seals  
James E. "Ted" Roberts  
Rocco L. Core**

**Wednesday, September 5, 2018  
11:30 a.m. or immediately following  
previous meeting**

**Tod Hall  
Board Meeting Room**

**AGENDA**

- A. Disposition of Minutes for Meetings Held June 1, 2016; and June 6, 2018**
- B. Old Business**
- C. Committee Items**
  - 1. Discussion Item**

**Tab C.1.a. a. September 5, 2018 Quarterly Portfolio Asset Allocation and Investment Performance Review**  
Mike Shebak, Sarah Parker and John Colla will report.

**2. Action Item**

**Tab C.2.a. a. Resolution to Approve Hartland's Recommendation to Rebalance the Non-Endowment Long-Term Investment Pool**  
Mike Shebak, Sarah Parker and John Colla will report.

**D. New Business**

**E. Adjournment**

# HARTLAND



independence  
expertise  
results

September 5, 2018

## YOUNGSTOWN STATE UNIVERSITY NON-ENDOWMENT & ENDOWMENT ASSETS

1100 Superior Avenue East Suite 700

Cleveland, Ohio 44114

216.621.1090 | [HARTLAND.com](http://HARTLAND.com)

## CONTENTS

- I. 2018 Initiatives
- II. Market Update
- III. Non-Endowment Assets: 2Q18 Performance & Asset Allocation Review
  - Alternative Investments Review
  - Rebalance Recommendation (Action)
  - Fee / ORC Compliance Review
- IV. Endowment Assets: 2Q18 Performance & Asset Allocation Review



# 2018 OVERSIGHT DASHBOARD

		1Q	2Q	3Q	4Q	Comments:
<b>Strategic/ Administrative</b>	Investment Policy Review				<input type="checkbox"/>	
	Strategic Asset Allocation Review				<input type="checkbox"/>	
	Peer Review				<input type="checkbox"/>	
	2019 Oversight Dashboard				<input type="checkbox"/>	
<b>Portfolio</b>	Alternative Investments Review			✓		Review GARS
	Fixed Income Review	✓				Review Lord Abbett Short Duration
	Domestic Equity Review		✓			
	International Equity Review		✓			
	Active Equity Managers					Pending
<b>Performance</b>	Capital Markets Review	✓	✓	✓	<input type="checkbox"/>	
	Quarterly Performance Review	✓	✓	✓	<input type="checkbox"/>	
<b>Other</b>	Fee Review			✓		
	ORC Compliance Review			✓		

**Last Reviewed**

Investment Policy: 12/6/2017  
 Strategic Asset Allocation: 12/6/2017  
 Fee Review: 9/5/2018

**Meeting Schedule**

1Q- March 14, 2018  
 2Q- June 6, 2018  
 3Q- September 5, 2018  
 4Q- December 5, 2018

**Follow-up Items**

- Share class conversions have been executed in 1Q2018:  
 1) Jhancock Global Absolute Return  
 2) Diamond Hill Long-Short  
 3) JPMorgan Core Bond Fund

- \$8 million cash raise & realized gain completed in 1Q2018.

- Star Plus & Star Ohio annual review was completed in July.





## MARKET UPDATE

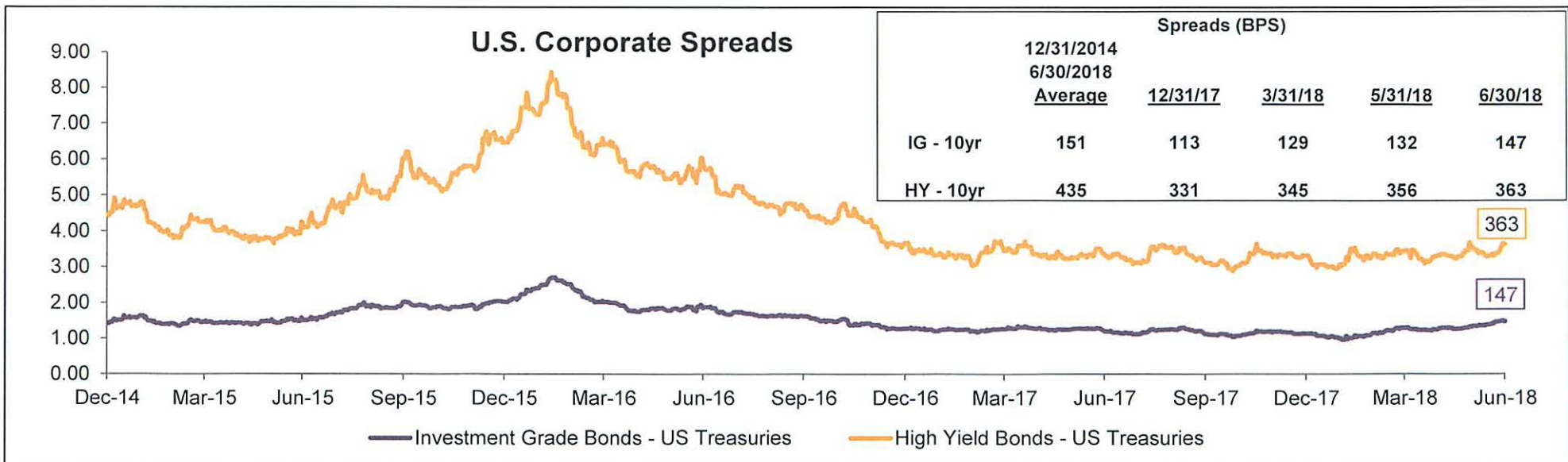
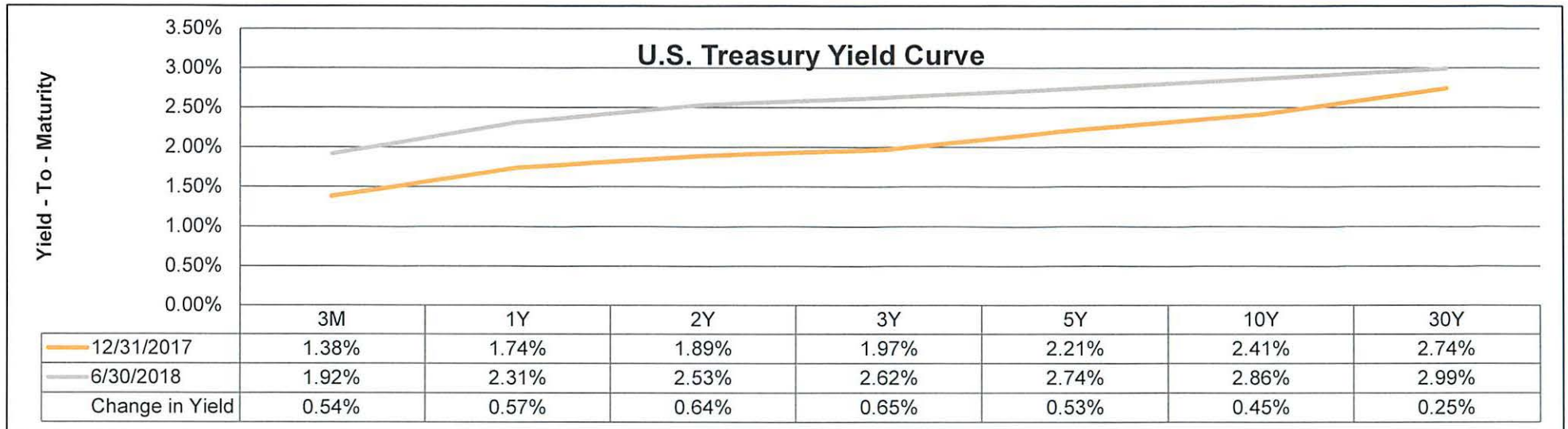
## PERIODIC CHART: ASSET CLASSES

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	07/08 - 06/18	
											Annual	Volatility
Glb Bond 9.4%	Em Mkt 78.5%	REITs 27.6%	US Bonds 7.8%	REITs 20.1%	Sm/Mid 36.8%	REITs 27.2%	REITs 2.3%	Sm/Mid 17.6%	Em Mkt 37.3%	Sm/Mid 5.5%	Sm/Mid 10.7%	REITs 23.0%
US Bonds 5.2%	Hi Yld 57.5%	Sm/Mid 26.7%	REITs 7.3%	Em Mkt 18.2%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	Hi Yld 17.5%	Dev Intl 25.0%	Large Cap 2.7%	Large Cap 10.2%	Em Mkt 22.2%
Cash 2.1%	Sm/Mid 34.4%	Em Mkt 18.9%	Glb Bond 5.2%	Dev Intl 17.3%	Dev Intl 22.8%	Balanced 10.6%	Balanced 1.0%	Large Cap 12.0%	Large Cap 21.8%	Balanced 1.2%	REITs 8.5%	Sm/Mid 18.4%
Hdg Fnds -21.4%	Dev Intl 31.8%	Hi Yld 15.2%	Balanced 5.0%	Sm/Mid 17.9%	Balanced 17.6%	Sm/Mid 7.1%	US Bonds 0.6%	Em Mkt 11.2%	Sm/Mid 16.8%	Hdg Fnds 1.2%	Balanced 8.1%	Dev Intl 18.1%
Balanced -21.6%	REITs 27.5%	Large Cap 15.1%	Hi Yld 4.4%	Large Cap 16.0%	Hdg Fnds 9.0%	US Bonds 6.0%	Cash 0.1%	REITs 9.3%	Balanced 14.5%	REITs 1.1%	Hi Yld 8.0%	Large Cap 14.7%
Hi Yld -26.4%	Large Cap 26.5%	Balanced 12.2%	Large Cap 2.1%	Hi Yld 15.8%	Hi Yld 7.4%	Hdg Fnds 3.4%	Hdg Fnds -0.3%	Balanced 8.4%	Glb Bond 9.3%	Cash 0.8%	US Bonds 3.7%	Hi Yld 10.4%
Sm/Mid -36.8%	Balanced 18.5%	Dev Intl 7.8%	Cash 0.1%	Balanced 11.4%	REITs 3.2%	Hi Yld 2.5%	Dev Intl -0.8%	US Bonds 2.7%	REITs 9.3%	Hi Yld 0.1%	Dev Intl 2.8%	Balanced 8.9%
Large Cap -37.0%	Hdg Fnds 11.5%	US Bonds 6.6%	Sm/Mid -2.5%	Hdg Fnds 4.8%	Cash 0.1%	Cash 0.0%	Sm/Mid -2.9%	Glb Bond 1.9%	Hdg Fnds 7.8%	Glb Bond -0.6%	Em Mkt 2.3%	Glb Bond 8.1%
REITs -37.3%	US Bonds 5.9%	Glb Bond 6.1%	Hdg Fnds -5.7%	US Bonds 4.2%	US Bonds -2.0%	Em Mkt -2.2%	Hi Yld -4.6%	Dev Intl 1.0%	Hi Yld 7.5%	US Bonds -1.6%	Glb Bond 1.9%	Hdg Fnds 5.0%
Dev Intl -43.4%	Glb Bond 4.4%	Hdg Fnds 5.7%	Dev Intl -12.1%	Glb Bond 1.8%	Em Mkt -2.6%	Glb Bond -2.8%	Glb Bond -4.8%	Hdg Fnds 0.5%	US Bonds 3.5%	Dev Intl -2.8%	Hdg Fnds 1.5%	US Bonds 3.3%
Em Mkt -53.3%	Cash 0.2%	Cash 0.1%	Em Mkt -18.4%	Cash 0.1%	Glb Bond -4.9%	Dev Intl -4.5%	Em Mkt -14.9%	Cash 0.3%	Cash 0.9%	Em Mkt -6.7%	Cash 0.4%	Cash 0.2%

Past performance is not a guarantee of future results. Asset classes represented by: Large Cap – S&P 500 Index; Sm/Mid – Russell 2500 Index; Dev Intl – MSCI EAFE Index; Em Mkt – MSCI Emerging Markets Index; Hi Yld – Bank of America Merrill Lynch U.S. High Yield Master II; US Bonds – Barclays Capital U.S. Aggregate; Glb Bond – Barclays Capital Global Treasury ex US; REITs – NAREIT ALL REITs; Balanced – 60% S&P 500/40% BarCap US Aggregate; Hdg Fnds – HFRI FOF: Diversified Index; Cash – Merrill Lynch 91-day Tbill (rebalanced quarterly). Data as of 6/30/2018. Source: Zephyr Associates.



## U.S. FIXED INCOME YIELDS AND SPREADS



Past performance is no guarantee of future results. US Treasuries – BarCap US Gov't 10-Yr Treasury; Investment Grade Bonds – BarCap BAA Corp; High Yield Bonds - BarCap US High Yield.  
Source: Bloomberg. Data as of 6/30/2018





## NON-ENDOWMENT ASSETS: 2Q18 PERFORMANCE & ASSET ALLOCATION REVIEW

## NON-ENDOWMENT PERFORMANCE REVIEW

Non-Endowment Assets	Market Value	2Q2018	YTD	1 Yr	3 Yrs	5 Yrs	2017	2016	2015	Since Inception****
Operating & Short-Term Pool	\$18.387 Million	0.4%	0.6%	1.1%	0.6%	0.4%	0.7%	0.3%	0.1%	0.3%
	<i>Benchmark*</i>	0.4%	0.8%	1.3%	0.7%	0.4%	0.8%	0.4%	0.1%	0.3%
Long-Term Pool	\$53.173 Million	0.9%	0.2%	5.1%	4.6%	5.0%	10.5%	4.9%	-0.3%	5.1%
	<i>Benchmark**</i>	1.3%	0.7%	5.3%	4.4%	4.7%	9.3%	4.7%	0.3%	4.5%
Total Non-Endowment Assets	\$71.560 Million	0.7%	0.5%	4.4%	3.6%	3.6%	7.8%	4.0%	-0.5%	3.8%
	<i>Benchmark***</i>	0.9%	0.8%	3.5%	2.7%	2.7%	5.4%	2.7%	0.2%	3.0%

\*95% BofA Merrill Lynch 91-Day T-Bill / 5% Barclays 1-3 Yr. Govt

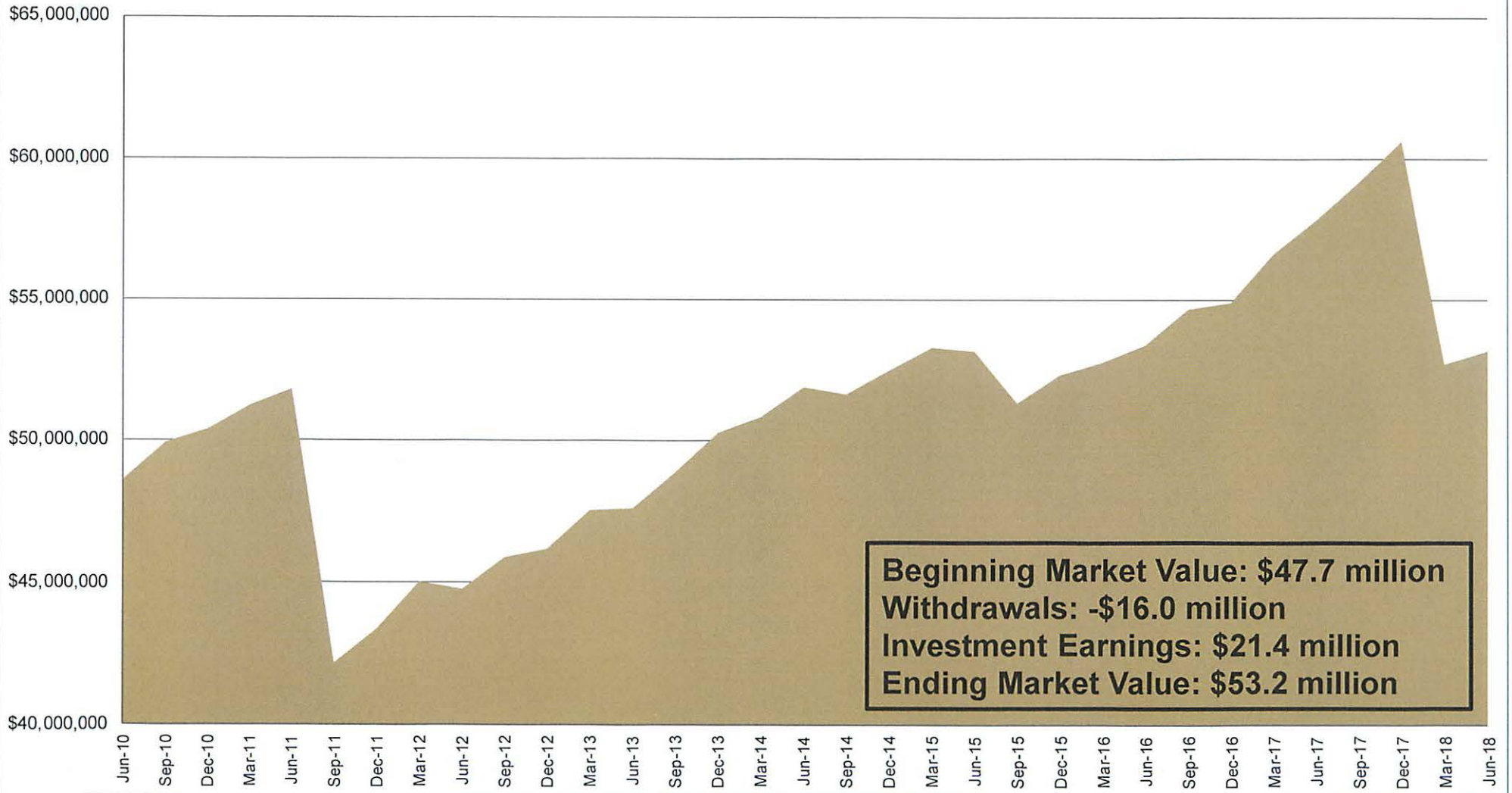
\*\*27% Russell 3000 / 8% MSCI EAFE Gross / 15% Total Alternatives Benchmark / 30% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 20% BBgBarc US Govt/Credit Int TR

\*\*\*45% BofA Merrill Lynch 91-Day T-Bill / 17% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 11% BBgBarc US Govt/Credit Int TR / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE Gross

\*\*\*\*Inception date for Long-Term and Short-Term Pools: June 2010, Inception Date for Total Non-Endowment Assets: March 2004

# ATTRIBUTION OF MARKET VALUE CHANGE: LONG-TERM POOL

**Long-Term Pool Market Value Change  
(6/30/2010-6/30/2018)**





## PERFORMANCE & ASSET ALLOCATION REVIEW

(MANAGER DETAILS CONTAINED IN APPENDIX)

Non-Endowment Asset Pool	Current Asset Allocation	Compliance with Policy?	Investment Manager Comments
Short-Term Pool	<ul style="list-style-type: none"> <li>94% Cash</li> <li>6% Short-Term Fixed Income</li> </ul>	<u>In Compliance</u>	Liquid; modest return overtime that has increased with recent Fed rate hikes (+0.4% 2Q18, +1.1% 1-year); investments include Star Plus and Star Ohio investments.
Long-Term Pool	<ul style="list-style-type: none"> <li>Domestic Equity 28%</li> </ul>	<u>In Compliance</u> Overweight 1%	<i>Domestic Equity (+3.8% 2Q18, +15.0% 1-year):</i> Small cap manager Victory Integrity was affected by stock selection and sector positioning during the second quarter, but maintains favorable results long-term (+4.9% 2Q18, +13.0% 1-year).
	<ul style="list-style-type: none"> <li>International Equity 9%</li> </ul>	Overweight 1%	<i>International Equity (-3.5% 2Q18, +5.7% 1-year):</i> William Blair International Growth outpaced the Index in the second quarter due to positive stock selection across most sectors (-1.9% 2Q18, +11.3% 1-year); Dodge & Cox was affected by stock selection in the financials sector and their emerging markets exposure (-5.1% 2Q18, +0.5% 1-year).
	<ul style="list-style-type: none"> <li>Alternatives 15%</li> </ul>	In-Line	<i>Alternatives (-0.3% 2Q18, +1.6% 1-year):</i> Diamond Hill led relative to all alternative investment strategies due to stock selection in their "long" portfolio (+0.4% 2Q18, +5.1% 1-year).
	<ul style="list-style-type: none"> <li>Short-Term Fixed Income 28%</li> </ul>	Underweight 2%	
	<ul style="list-style-type: none"> <li>Intermediate Fixed Income 21%</li> </ul>	Overweight 1%	<i>Fixed Income (+0.3% 1Q18, +0.3% 1-year):</i> All active managers were in-line or outpaced benchmarks for the second quarter; High yield was the top performer (Prudential High Yield +1.2% 2Q18, +3.1% 1-year).



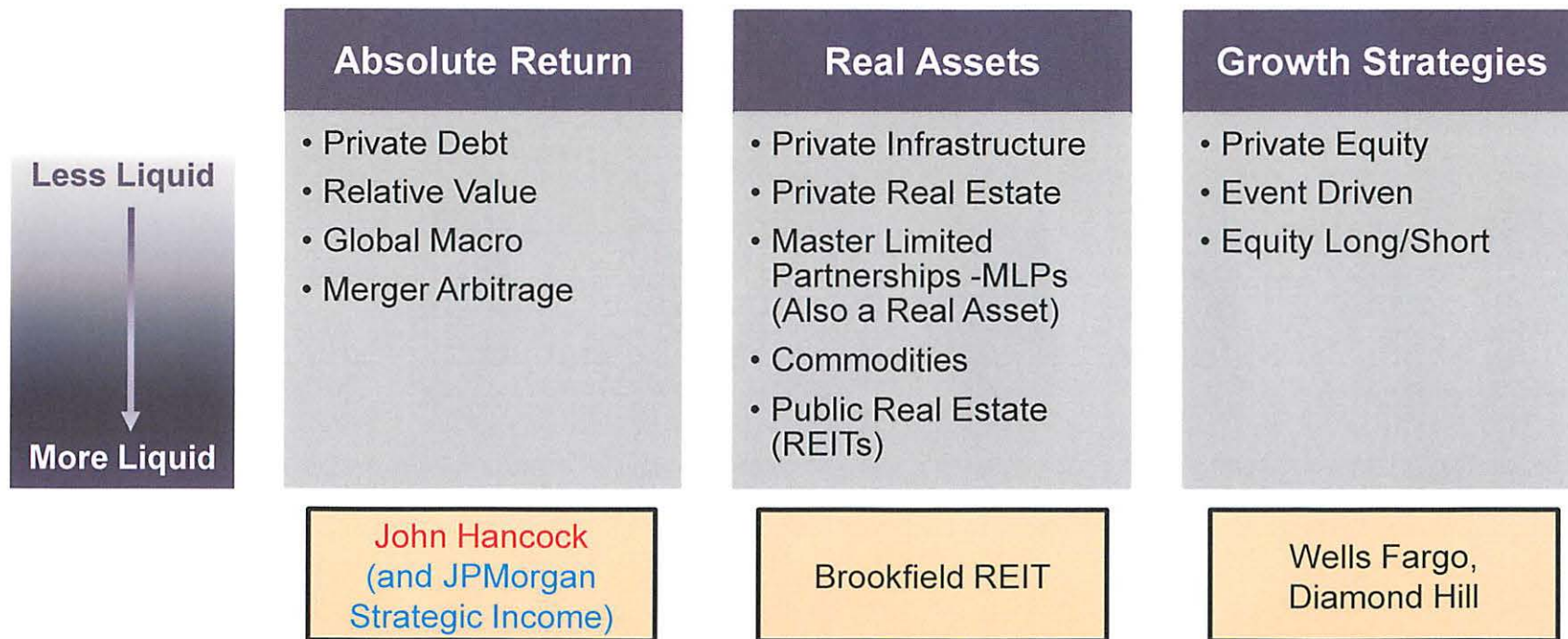
## ALTERNATIVE INVESTMENTS REVIEW



## ALTERNATIVES: BROAD CATEGORIES

*Categorizing alternative investments is a formidable task because the degree of variability beyond “traditional investments” is expansive.*

*Below is a broad categorization of widely used alternatives.*





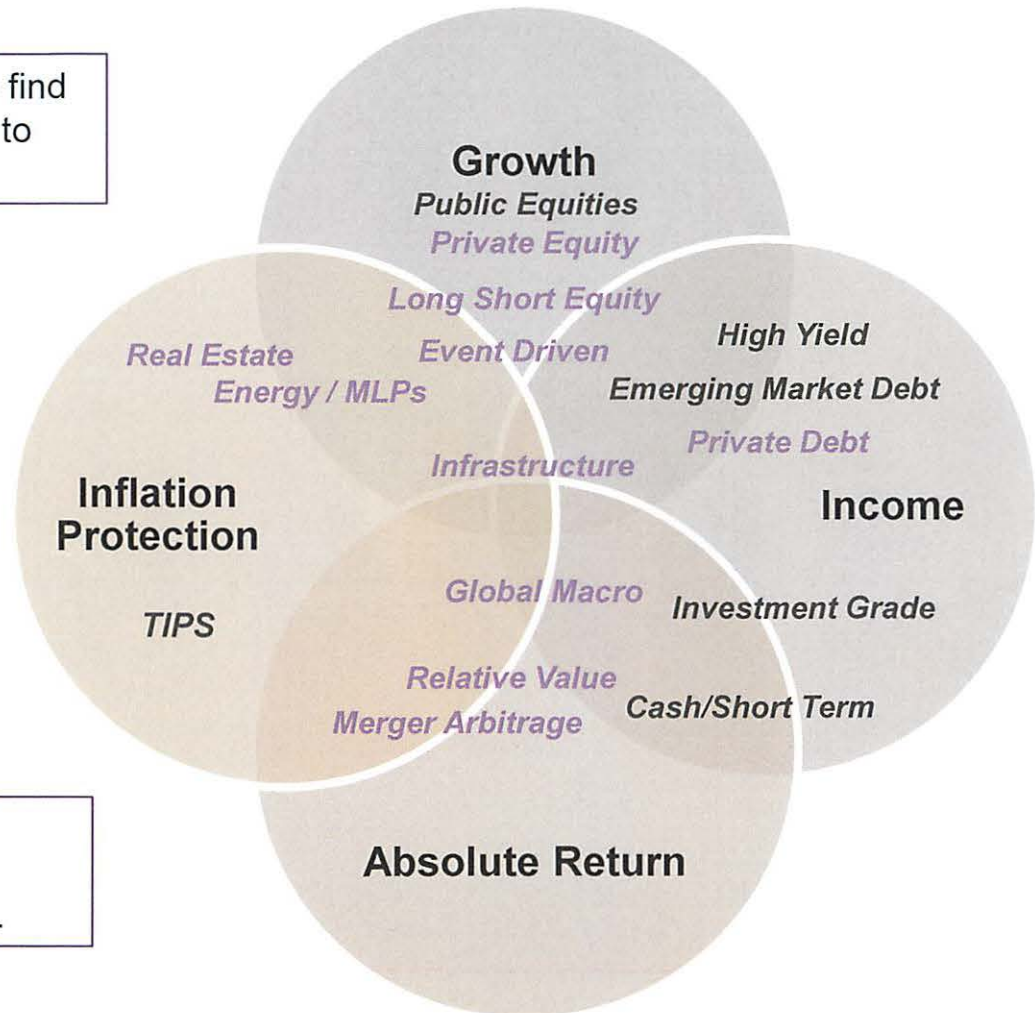
# HARTLAND'S PURPOSE-DRIVEN APPROACH

*Alternatives help to expand the investable universe.*

The **growth** alternatives aim to find additional alpha or exposure to different beta sources.

Real assets, such as real estate and MLPs, serve multiple functions through capital appreciation, **inflation protection**, and **income**.

The **absolute return** alternatives provide a hedging and diversification purpose or fixed-income-like characteristics over a market cycle.



## PERFORMANCE OF ALTERNATIVE MANAGERS & RECOMMENDATION

	Ending June 30, 2018								Calendar Years			Inception (%)	Inception Date
	2018 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)		
John Hancock Global Absolute Return R6	-2.1	-3.7	-1.7	0.9	-1.0	1.3	--	--	3.7	-2.5	1.7	0.4	Mar-16
<i>HFRI Relative Value (Total) Index</i>	1.1	1.5	3.9	5.8	3.7	4.4	4.6	5.1	5.1	7.7	-0.3	6.5	
<i>Multialternative MStar MF Rank</i>	90	88	83	73	79	85	--	--	67	88	12	83	
Wells Fargo Adv Absolute Return Instl	-2.4	-1.7	3.0	6.3	2.5	3.1	--	--	12.6	3.0	-4.6	1.4	Mar-15
<i>HFRI Fund of Funds Composite Index</i>	0.8	1.0	5.5	6.0	2.0	3.5	2.9	1.4	7.8	0.5	-0.3	2.1	
Diamond Hill Long-Short Y	0.4	-1.6	0.7	8.0	4.0	6.0	7.3	4.6	6.0	10.5	-1.4	4.1	Mar-15
<i>HFRX Equity Hedge Index</i>	-0.9	0.2	6.3	7.2	1.7	3.0	1.7	-0.4	10.0	0.1	-2.3	1.6	
<i>Long-Short Credit Mstar MF Rank</i>	50	92	64	1	19	1	1	1	10	10	42	15	
Brookfield Global Listed Real Estate I	4.6	0.2	5.1	4.0	5.6	7.4	--	--	10.1	6.3	-1.4	3.7	Jul-17
<i>FTSE NAREIT Developed</i>	5.1	0.4	5.6	2.9	5.7	6.0	6.4	4.9	10.4	4.1	-0.8	3.8	
<i>Global Real Estate MStar MF Rank</i>	30	66	86	51	52	21	--	--	81	10	72	77	

- **Recommendation: Replace John Hancock Global Absolute Return Strategy (GARS) with the JPMorgan Strategic Income Opportunities Fund**
  - Favorable risk-adjusted performance
  - Lower fees (0.77% vs. 1.24% for JH GARS)
  - Low correlation to traditional asset classes
  - Proven absolute return strategy

	YTD	1-Yr	3-Yr	5-Yr	7-Yr	9-Yr	Since 11/2008
JPMorgan Strategic Income Opportunities Fund	1.1%	2.1%	3.4%	2.6%	2.9%	4.1%	5.0%
<i>Stated Benchmark: BBgBarc US Universal Index</i>	-1.7%	-0.3%	2.1%	2.6%	2.9%	4.0%	4.7%
John Hancock Global Absolute Return Strategy*	-3.7%	-1.7%	-0.9%	1.4%	3.0%	4.6%	5.0%
<i>Stated Benchmark: ICE BofA ML 6-Mo Deposit Offered Rate Constant Maturity Index</i>	0.8%	1.4%	1.0%	0.7%	0.7%	0.7%	0.9%
<i>HFRI Relative Value Index</i>	1.5%	3.9%	3.7%	4.4%	4.6%	6.4%	7.0%

Source: Zephyr.

Data as of 6/30/2018.

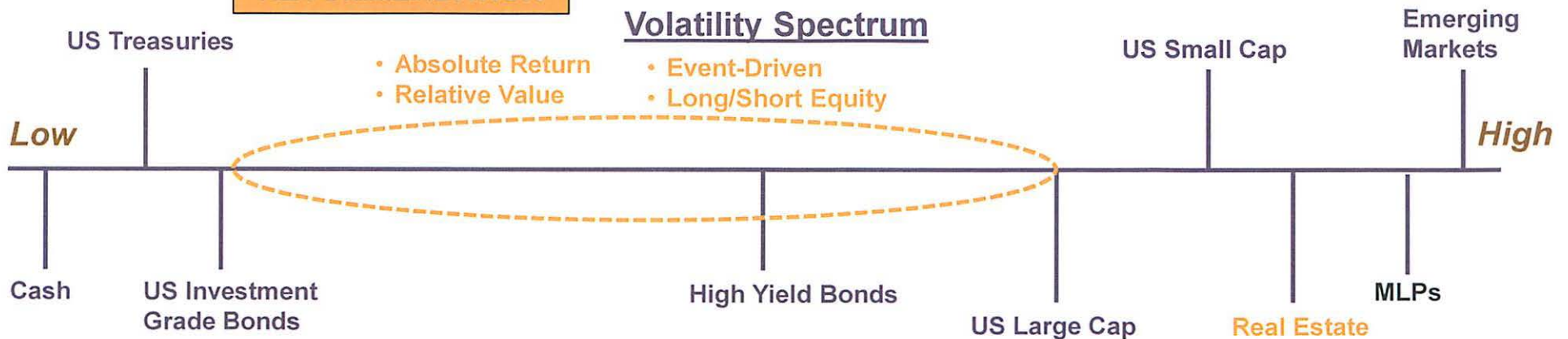
\*John Hancock performance is a blend of the mutual fund vehicle and underlying strategy. Aberdeen Standard Life (mutual fund inception 01/2012, strategy inception 07/2006).



## YSU ALTERNATIVE INVESTMENTS

Investment Name	Investment Type	Purpose / Role in Portfolio	Objective	Exposure	Beta (S&P 500)	Volatility Profile <sup>1</sup>	Correlation (S&P 500)	Correlation (Barclays Agg)	Expense Ratio
John Hancock GARS (Standard Life)	Absolute Return Relative Value	Volatility mitigation and diversification	Cash + 3-5%	Global	0.20	3.71%	0.51	0.12	1.24%
Wells Fargo Advantage Absolute Return	Absolute Return Event Driven	Volatility mitigation, growth and diversification	Inflation + 3-5%	Global	0.40	6.90%	0.77	0.16	1.20%
Diamond Hill Long-Short	Growth: Long-Short Equity	Growth and volatility mitigation	Equity-like returns with less volatility	U.S.	0.68	12.84%	0.77	-0.11	0.97%
Brookfield Global REIT	Growth: REITs	Growth, yield, diversification	Real Estate exposure	Global	0.78	12.09%	0.62	0.44	0.95%
JPMorgan Strategic Income Opportunities	Absolute Return Relative Value	Volatility mitigation and diversification	Cash + 2-8%	U.S.	0.18	4.29%	0.58	0.14	0.77%

**RECOMMENDATION**



Traditional Assets  
Alternatives

1. The volatility profile is since inception through 11/30/2017, depending on the availability of the database. GARS - January 2012; Wells Fargo - August 2003; Diamond Hill Long-Short - July 2000; JPMorgan Strat Inc Opp - November 2008; Brookfield Global REITs - December 2011.





## REBALANCE RECOMMENDATION

## REBALANCE RECOMMENDATION (ACTION)

Avg Yield = 2.0%

	Market Value as of 7/30/2018		Change	New Allocation		Policy Target	Policy Range	Difference
	\$	%		\$	%			
<b>Total Operating &amp; Short Term</b>	<b>\$14,280,010</b>	<b>100.0%</b>		<b>\$14,280,010</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Operating Assets</b>	<b>\$13,209,116</b>	<b>92.5%</b>		<b>\$13,209,116</b>	<b>92.5%</b>		<b>60-100%</b>	
JPMorgan 100% U.S. Treas. MM Instl	\$85,237	0.6%		\$85,237	0.6%			
Star Plus*	\$2,513,740	17.6%		\$2,513,740	17.6%			
Star Ohio*	\$10,610,139	74.3%		\$10,610,139	74.3%			
<b>Short-Term Assets</b>	<b>\$1,070,895</b>	<b>7.5%</b>		<b>\$1,070,895</b>	<b>7.5%</b>		<b>0-40%</b>	
Vanguard Short-Term Federal Adm	\$1,070,895	7.5%		\$1,070,895	7.5%			
<b>Total Long Term Reserves Pool</b>	<b>\$53,729,583</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$53,729,583</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Domestic Equity</b>	<b>\$15,202,964</b>	<b>28.3%</b>		<b>\$15,202,964</b>	<b>28.3%</b>	<b>27.0%</b>	<b>20-35%</b>	<b>1.3%</b>
<b>Large Cap</b>	<b>\$10,795,560</b>	<b>20.1%</b>		<b>\$10,795,560</b>	<b>20.1%</b>			
Vanguard Instl Index	\$10,795,560	20.1%		\$10,795,560	20.1%			
<b>Small/Mid Cap</b>	<b>\$4,407,404</b>	<b>8.2%</b>		<b>\$4,407,404</b>	<b>8.2%</b>			
Vanguard Mid Cap Index Inv	\$2,216,809	4.1%		\$2,216,809	4.1%			
Loomis Sayles Small Growth Instl	\$1,116,461	2.1%		\$1,116,461	2.1%			
Victory Integrity Small Cap Value Y	\$1,074,135	2.0%		\$1,074,135	2.0%			
<b>International Equity</b>	<b>\$4,777,825</b>	<b>8.9%</b>		<b>\$4,277,825</b>	<b>8.0%</b>	<b>8.0%</b>	<b>0-15%</b>	<b>0.0%</b>
William Blair International Growth I	\$2,392,434	4.5%	-\$250,000	\$2,142,434	4.0%			
Dodge & Cox International Stock	\$2,385,391	4.4%	-\$250,000	\$2,135,391	4.0%			
<b>Total Equity</b>	<b>\$19,980,789</b>	<b>37.2%</b>		<b>\$19,480,789</b>	<b>36.3%</b>	<b>35.0%</b>	<b>25-45%</b>	<b>1.3%</b>
<b>Alternatives</b>	<b>\$7,930,675</b>	<b>14.8%</b>		<b>\$8,101,818</b>	<b>15.1%</b>	<b>15.0%</b>	<b>0-20%</b>	<b>0.1%</b>
<b>Jhancock Global Absolute Return R6</b>	\$1,728,857	3.2%	-\$1,728,857	\$0	0.0%			
<b>JPMorgan Strategic Income Opps Fund</b>	\$0	0.0%	\$2,100,000	\$2,100,000	3.9%			
Wells Fargo Adv Absolute Return I	\$2,340,529	4.4%	-\$200,000	\$2,140,529	4.0%			
Diamond Hill Long-Short Y	\$2,438,258	4.5%	-\$250,000	\$2,188,258	4.1%			
Brookfield Global Real Estate	\$1,423,031	2.6%	\$250,000	\$1,673,031	3.1%			
<b>Fixed Income</b>	<b>\$25,748,989</b>	<b>47.9%</b>		<b>\$26,138,989</b>	<b>48.6%</b>	<b>50.0%</b>		
<b>Short Term Fixed Income</b>	<b>\$14,747,945</b>	<b>27.4%</b>		<b>\$15,237,945</b>	<b>28.4%</b>	<b>30.0%</b>	<b>25-45%</b>	<b>-1.6%</b>
YSU Short Term Bond	\$11,104,655	20.7%		\$11,104,655	20.7%			
Lord Abbett Short Duration	\$1,809,338	3.4%	\$490,000	\$2,299,338	4.3%			Yield = 3.96%
DFA Five-Year Global	\$1,833,951	3.4%		\$1,833,951	3.4%			
<b>Intermediate Fixed Income</b>	<b>\$11,001,044</b>	<b>20.5%</b>		<b>\$10,901,044</b>	<b>20.3%</b>	<b>20.0%</b>	<b>10-30%</b>	<b>0.3%</b>
JPMorgan Core Bond Fund Sel	\$4,615,643	8.6%	-\$100,000	\$4,515,643	8.4%			
YSU Intermediate Term Fixed	\$3,952,716	7.4%		\$3,952,716	7.4%			
Prudential High Yield Bond R6	\$2,432,685	4.5%		\$2,432,685	4.5%			
<b>Total Cash &amp; Cash Equivalents</b>	<b>\$69,130</b>	<b>0.1%</b>		<b>\$7,987</b>	<b>0.0%</b>			
Equity Account Cash	\$69,130	0.1%	-\$61,143	\$7,987	0.0%			
<b>Total University Assets</b>	<b>\$68,009,594</b>			<b>\$68,009,594</b>				

Long-Term Pool Fixed Income Portfolio			
Avg Maturity	Avg Duration	Credit Quality	Yield
3.7	3.2	AA	3.4%

\*As of 6/30/2018



## FEE/ORC COMPLIANCE REVIEW



## FEE REVIEW

	Market Value as of 6/30/2018	Estimated Annual Fee (\$)	Expense Ratio	Morningstar Category Average Fee (%)	Morningstar Institutional Average Fee (%)
<b>Total Operating &amp; Short Term</b>					
JPMorgan 100% U.S. Tr Sec MM Inst	\$4,189,327	\$8,798	0.21%	n/a	n/a
Vanguard Short-Term Federal Adm	\$1,073,960	\$1,074	0.10%	0.74%	0.56%
STAR Plus	\$2,513,740	\$2,036	0.08%	n/a	n/a
STAR Ohio	\$10,610,139	\$8,594	0.08%	n/a	n/a
<b>Total Operating &amp; ST Investment Management Fee</b>	<b>\$18,387,166</b>	<b>\$20,502</b>	<b>0.03%</b>		
<b>Total Domestic Equity</b>					
Vanguard Institutional Index	\$10,459,505	\$4,184	0.04%	0.99%	0.73%
Vanguard Mid Cap Index Inv	\$2,177,340	\$3,701	0.17%	1.07%	0.84%
Loomis Sayles Sm Growth Instl	\$1,113,023	\$10,574	0.95%	1.26%	1.04%
Victory Integrity Small Value Y	\$1,070,761	\$12,314	1.15%	1.27%	1.05%
<b>Total International Equity</b>	<b>\$4,634,416</b>	<b>\$41,194</b>			
William Blair International Growth I	\$2,352,483	\$26,818	1.14%	1.17%	0.98%
Dodge & Cox Internat'l Stock	\$2,281,933	\$14,376	0.63%	1.04%	0.86%
<b>Total Alternatives</b>	<b>\$7,826,230</b>	<b>\$99,045</b>			
John Hancock Global Absolute Return R6	\$1,715,337	\$21,270	1.24%	1.72%	1.74%
Wells Fargo Adv Absolute Return Instl	\$2,313,674	\$27,764	1.20%	1.04%	1.08%
Diamond Hill Long-Short Y	\$2,362,147	\$36,377	1.54%	2.40%	1.62%
Brookfield Global Listed Real Estate I	\$1,435,072	\$13,633	0.95%	1.34%	1.03%
<b>Total Fixed Income</b>	<b>\$25,822,566</b>	<b>\$67,790</b>			
JPMorgan Core Bond	\$4,632,174	\$23,161	0.50%	0.77%	0.54%
YSU Intermediate Term Bond	\$3,976,479	\$5,965	0.15%	0.77%	0.54%
PGIM High Yield R6	\$2,419,220	\$9,919	0.41%	1.04%	0.79%
YSU Short Term Bond	\$11,147,184	\$16,721	0.15%	0.76%	0.49%
Lord Abbett Short Duration Income I	\$1,813,558	\$7,073	0.39%	0.76%	0.49%
DFA Five-Yr Global Fxd-Inc I	\$1,833,951	\$4,952	0.27%	0.97%	0.71%
<b>Total Cash &amp; Cash Equivalents</b>	<b>\$69,130</b>	<b>\$0</b>			
PNC Govt MMkt	\$69,130	\$0	0.00%	n/a	n/a
<b>Total LT/Reserves Pool Investment Management Fee</b>	<b>\$53,172,971</b>	<b>\$238,801</b>	<b>0.33%</b>		
<b>Total Assets</b>	<b>\$71,560,137</b>				
Hartland Consulting Fees		\$49,500	0.07%		
Trustee Fee (PNC)		\$21,468	0.03%		
<b>Total Non-Endowment Assets Fees</b>		<b>\$330,271</b>	<b>0.46%</b>		

Star Ohio fees estimates from the 2017 annual report.

## ORC COMPLIANCE REVIEW: 6/30/2018

	Total Non-Endowment ORC 3345.05 Defined Assets*	% from Short-Term Pool	% from Long-Term Pool
9/30/17	37%	29%	8%
12/31/17	20%	10%	10%
3/31/18	44%	38%	6%
6/30/18	32%	24%	7%
Average	33%	25%	8%

*YSU is in line with the Ohio Revised Code 3345.05 Compliance requirements*

Ohio Revised Code 3345.05 Compliance	
	Compliant
Over 25% of Total Portfolio in Cash Equivalents/Govt Securities (average amount over previous FY)	Yes
Investment policy adopted in public session	Yes
Quarterly Investment Committee meetings	Yes
Recommend changes to the board's investment policy that assist in meeting the Committee's fiduciary duties	Yes
Retain an investment advisor who meets the qualifications	Yes

\*A minimum of 25% of the average amount of the University's investment portfolio over the course of the previous fiscal year must be invested according to ORC guidelines (i.e. US government bonds, cash equivalents)



## ENDOWMENT ASSETS: 2Q18 PERFORMANCE & ASSET ALLOCATION REVIEW



## ENDOWMENT ASSETS PERFORMANCE & ASSET ALLOCATION REVIEW

Endowment Assets	Market Value	Asset Allocation	Composition	2Q 2018	YTD	1-Yr	3-Yr	2017	2016	2015
YSU Endowment	\$10.168 million	77% Equities / 23% Fixed Income & Cash	Stocks, Bonds, Mutual Funds	0.9%	-0.4%	7.7%	7.7%	14.2%	8.5%	-0.3%
<i>60% S&amp;P 500 Index / 40% Barclays Index</i>				2.0%	1.0%	8.3%	7.9%	14.2%	8.3%	1.3%
Kilcawley Center	\$110,237	60% Equities/ 40% Fixed Income	Mutual Fund	2.3%	1.4%	8.6%	7.8%	13.8%	4.9%	-5.3%
<i>60% S&amp;P 500 Index / 40% Barclays Index</i>				2.0%	1.0%	8.3%	7.9%	14.2%	8.3%	1.3%
Alumni License Plate	\$559,542	60% Equities/ 40% Fixed Income	Mutual Fund	2.3%	1.4%	8.5%	7.5%	10.3%	13.8%	-0.2%
<i>60% S&amp;P 500 Index / 40% Barclays Index</i>				2.0%	1.0%	8.3%	7.9%	14.2%	8.3%	1.3%

### Compliance

- Asset Allocation Guidelines: 70% Equities (60-80%)/30% Cash & Fixed Income (20-40%)
  - YSU Endowment (In-Line)
  - Kilcawley Center (In-Line)
  - Alumni (In-Line)
- Equity and Fixed Income Guidelines
  - YSU Endowment (In-Line)
  - Kilcawley Center (In-Line)
  - Alumni (In-Line)

See page 32 in appendix for detail on holdings.

Kilcawley Center & Alumni License Plate accounts- Transition to PNC as custodian completed on 11/1/2017. Historical allocation to single stock and bond positions resulted in large differences relative to benchmark. Both accounts are now currently invested in one low cost, balanced Vanguard mutual fund.



## APPENDIX

# IPS COMPLIANCE

As of June 30, 2018

Total Plan Asset Allocation Policy	Range	Current
Operating & Short-Term Pool	25% - 50%	26%
Long Term/ Reserves Pool	50% - 75%	74%

Operating & Short-Term Pool	Range	Current
Operating Assets	60% - 100%	94%
Short-Term Assets	0% - 40%	6%

Long Term/ Reserves Pool	Target	Range	Current
Domestic Equity	27%	20% - 35%	28%
International Equity	8%	0% - 15%	9%
Total Equity	35%	25% - 45%	37%
Alternatives	15%	0%-20%	15%
Short-Term Fixed Income	30%	25% - 45%	28%
Intermediate Fixed Income	20%	10% - 30%	21%
Cash & Cash Equivalents	0%	0% - 5%	0%

In Line
  Within Tolerance
  Review



## SCHEDULE OF ASSETS

Asset Class	Market Value 3/31/18 (\$)	Market Value 6/30/18 (\$)	% of Total Plan	% of Pool	
<b>Total University Assets</b>	<b>86,514,277</b>	<b>71,560,137</b>	<b>100.0</b>	<b>100.0</b>	
<b>Total Operating &amp; Short Term</b>	<b>33,805,366</b>	<b>18,387,166</b>	<b>25.7</b>	<b>100.0</b>	
JPMorgan 100% U.S. Tr Sec MM Inst	Cash	27,650,241	4,189,327	5.9	22.8
Star Plus	Cash	5,083,417	2,513,740	3.5	13.7
Vanguard Short-Term Federal Adm	US Fixed Income Short Term	1,071,708	1,073,960	1.5	5.8
STAR Ohio	--	10,610,139	14.8	57.7	
<b>Total Long Term/ Reserves Pool</b>	<b>52,708,911</b>	<b>53,172,971</b>	<b>74.3</b>	<b>100.0</b>	
<b>Total Domestic Equity</b>	<b>14,747,937</b>	<b>14,820,629</b>	<b>20.7</b>	<b>27.9</b>	
Vanguard Institutional Index	US Stock Large Cap Core	10,587,388	10,459,505	14.6	19.7
Vanguard Mid Cap Index Inv	US Stock Mid Cap Core	2,123,487	2,177,340	3.0	4.1
Loomis Sayles Sm Growth Instl	US Stock Small Cap Growth	1,016,388	1,113,023	1.6	2.1
Victory Integrity Small Value Y	US Stock Small Cap Value	1,020,675	1,070,761	1.5	2.0
<b>Total International Equity</b>	<b>4,304,397</b>	<b>4,634,416</b>	<b>6.5</b>	<b>8.7</b>	
William Blair International Growth I	International	2,155,130	2,352,483	3.3	4.4
Dodge & Cox Internat'l Stock	International	2,149,267	2,281,933	3.2	4.3
<b>Total Alternatives</b>	<b>7,846,125</b>	<b>7,826,231</b>	<b>10.9</b>	<b>14.7</b>	
John Hancock Global Absolute Return R6	Absolute Return	1,752,517	1,715,337	2.4	3.2
Wells Fargo Adv Absolute Return Instl	All Assets	2,369,450	2,313,674	3.2	4.4
Diamond Hill Long-Short Y	Long/Short Equity	2,352,180	2,362,147	3.3	4.4
Brookfield Global Listed Real Estate I	Global Real Estate	1,371,978	1,435,072	2.0	2.7
<b>Total Fixed Income</b>	<b>25,741,594</b>	<b>25,822,566</b>	<b>36.1</b>	<b>48.6</b>	
JPMorgan Core Bond	US Fixed Income Core	4,641,814	4,632,174	6.5	8.7
YSU Intermediate Term Bond	US Fixed Income Core	3,975,679	3,976,479	5.6	7.5
PGIM High Yield R6	US Fixed Income High Yield	2,390,324	2,419,220	3.4	4.5
YSU Short Term Bond	US Fixed Income Short Term	11,106,187	11,147,184	15.6	21.0
Lord Abbett Short Duration Income I	US Fixed Income Short Term	1,801,920	1,813,558	2.5	3.4
Vanguard Short-Term Bond Instl	US Fixed Income Short Term	1,823	0	0.0	0.0
DFA Five-Yr Global Fxd-Inc I	Global Fixed Income	1,823,847	1,833,951	2.6	3.4
<b>Total Cash &amp; Cash Equivalents</b>	<b>68,857</b>	<b>69,130</b>	<b>0.1</b>	<b>0.1</b>	
PNC Govt MMkt	Global Fixed Income	68,857	69,130	0.1	0.1

## PERFORMANCE REPORT CARD

	Ending June 30, 2018								Calendar Years			Inception (%)	Inception Date
	2018 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)		
<b>Total University Assets</b>	<b>0.7</b>	<b>0.5</b>	<b>4.4</b>	<b>5.4</b>	<b>3.6</b>	<b>3.6</b>	<b>3.4</b>	<b>3.8</b>	<b>7.8</b>	<b>4.0</b>	<b>-0.5</b>	<b>3.8</b>	<b>Mar-04</b>
<i>Total Policy Benchmark</i>	0.9	0.8	3.5	3.8	2.7	2.7	2.5	2.7	5.4	2.7	0.2	3.0	
<b>Total Operating &amp; Short Term</b>	<b>0.4</b>	<b>0.6</b>	<b>1.1</b>	<b>0.7</b>	<b>0.6</b>	<b>0.4</b>	<b>0.3</b>	<b>--</b>	<b>0.7</b>	<b>0.3</b>	<b>0.1</b>	<b>0.3</b>	<b>Jun-10</b>
<i>Total Operating &amp; Short Term Benchmark</i>	0.4	0.8	1.3	0.9	0.7	0.4	0.3	0.4	0.8	0.4	0.1	0.3	
JPMorgan 100% U.S. Tr Sec MM Inst	0.4	0.7	1.2	0.7	0.5	0.3	0.2	0.2	0.7	0.2	0.0	0.2	Sep-11
<i>ICE BofAML 91 Days T-Bills TR</i>	0.5	0.8	1.4	0.9	0.7	0.4	0.3	0.4	0.9	0.3	0.0	0.3	
<i>Money Market - Taxable MStar MF Rank</i>	52	47	47	55	54	53	56	66	55	60	93	56	
Vanguard Short-Term Federal Adm	0.2	-0.1	0.0	0.0	0.7	0.9	1.0	1.9	0.8	1.2	0.8	1.0	Sep-10
<i>BBgBarc US Govt 1-5 Yr TR</i>	0.1	-0.3	-0.4	-0.4	0.5	0.8	0.9	1.8	0.7	1.0	0.9	0.9	
<i>Short Government MStar MF Rank</i>	38	61	47	43	13	31	32	26	31	17	14	28	
STAR Plus	0.3	0.7	1.1	0.8	0.6	--	--	--	0.7	0.4	0.2	0.5	Jan-14
<i>ICE BofAML 91 Days T-Bills TR</i>	0.5	0.8	1.4	0.9	0.7	0.4	0.3	0.4	0.9	0.3	0.0	0.5	
STAR Ohio	--	--	--	--	--	--	--	--	--	--	--	--	Jun-18
<i>ICE BofAML 91 Days T-Bills TR</i>	0.5	0.8	1.4	0.9	0.7	0.4	0.3	0.4	0.9	0.3	0.0	--	
<b>Total Long Term/ Reserves Pool</b>	<b>0.9</b>	<b>0.2</b>	<b>5.1</b>	<b>6.7</b>	<b>4.6</b>	<b>5.0</b>	<b>4.8</b>	<b>--</b>	<b>10.5</b>	<b>4.9</b>	<b>-0.3</b>	<b>5.1</b>	<b>Jun-10</b>
<i>Total Long Term/ Reserves Fund Benchmark</i>	1.3	0.7	5.3	6.2	4.4	4.7	4.4	4.6	9.3	4.7	0.3	4.5	
<b>Total Domestic Equity</b>	<b>3.8</b>	<b>3.5</b>	<b>15.0</b>	<b>17.1</b>	<b>11.4</b>	<b>13.2</b>	<b>12.8</b>	<b>--</b>	<b>21.6</b>	<b>11.7</b>	<b>0.7</b>	<b>15.2</b>	<b>Jun-10</b>
<i>Russell 3000</i>	3.9	3.2	14.8	16.6	11.6	13.3	13.0	10.2	21.1	12.7	0.5	15.3	
Vanguard Institutional Index	3.4	2.6	14.3	16.1	11.9	13.4	13.2	10.2	21.8	11.9	1.4	15.2	Jun-10
<i>S&amp;P 500</i>	3.4	2.6	14.4	16.1	11.9	13.4	13.2	10.2	21.8	12.0	1.4	15.3	
<i>Large Blend MStar MF Rank</i>	28	29	33	40	12	17	18	27	32	28	24	22	



## PERFORMANCE REPORT CARD

	Ending June 30, 2018								Calendar Years			Inception Inception Date	
	2018 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)		
Vanguard Mid Cap Index Inv	2.5	2.6	12.1	14.6	9.2	12.3	11.7	10.1	19.3	11.2	-1.3	13.5	Sep-10
<i>Vanguard Mid Cap Index Benchmark</i>	2.6	2.6	12.1	14.7	9.2	12.4	11.8	10.1	19.3	11.2	-1.3	13.5	
<i>Mid-Cap Blend MStar MF Rank</i>	59	38	45	49	38	27	28	40	16	74	19	29	
Loomis Sayles Sm Growth Instl	9.5	14.7	27.4	25.4	12.0	13.6	12.7	12.2	26.9	5.7	1.1	15.8	Sep-10
<i>Russell 2000 Growth</i>	7.2	9.7	21.9	23.1	10.6	13.6	12.5	11.2	22.2	11.3	-1.4	14.7	
<i>Small Growth MStar MF Rank</i>	35	26	24	28	37	41	34	30	22	85	20	24	
Victory Integrity Small Value Y	4.9	1.1	13.0	18.0	9.2	11.0	11.3	12.0	12.4	24.4	-6.7	13.1	Sep-10
<i>Russell 2000 Value</i>	8.3	5.4	13.1	18.8	11.2	11.2	11.1	9.9	7.8	31.7	-7.5	12.6	
<i>Small Value MStar MF Rank</i>	70	86	34	25	53	49	32	3	19	61	62	25	
<b>Total International Equity</b>	<b>-3.5</b>	<b>-4.4</b>	<b>5.7</b>	<b>14.0</b>	<b>3.7</b>	<b>6.5</b>	<b>4.4</b>	<b>--</b>	<b>26.6</b>	<b>2.7</b>	<b>-5.9</b>	<b>5.3</b>	<b>Sep-10</b>
<i>MSCI EAFE</i>	-1.2	-2.7	6.8	13.4	4.9	6.4	4.9	2.8	25.0	1.0	-0.8	5.9	
<i>MSCI ACWI ex USA</i>	-2.6	-3.8	7.3	13.7	5.1	6.0	3.8	2.5	27.2	4.5	-5.7	4.9	
William Blair International Growth I	-1.9	-1.6	11.3	13.5	5.3	7.0	5.9	3.5	29.5	-2.5	0.0	8.7	Jun-12
<i>MSCI ACWI ex USA</i>	-2.6	-3.8	7.3	13.7	5.1	6.0	3.8	2.5	27.2	4.5	-5.7	7.2	
<i>Foreign Large Growth MStar MF Rank</i>	75	70	40	53	74	67	61	71	66	60	68	64	
Dodge & Cox Internat'l Stock	-5.1	-7.1	0.5	14.5	2.1	5.8	4.7	3.7	23.9	8.3	-11.4	5.7	Sep-10
<i>MSCI EAFE</i>	-1.2	-2.7	6.8	13.4	4.9	6.4	4.9	2.8	25.0	1.0	-0.8	5.9	
<i>Foreign Large Value MStar MF Rank</i>	90	92	87	21	87	47	27	16	43	18	95	35	
<b>Total Alternatives</b>	<b>-0.3</b>	<b>-1.8</b>	<b>1.6</b>	<b>4.5</b>	<b>2.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>7.9</b>	<b>3.5</b>	<b>--</b>	<b>1.2</b>	<b>Mar-15</b>
<i>Total Alternatives Benchmark</i>	1.8	0.9	5.6	5.3	2.6	--	--	--	8.4	1.5	--	2.2	

# PERFORMANCE REPORT CARD

	Ending June 30, 2018								Calendar Years				Inception Date
	2018 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Inception (%)	
John Hancock Global Absolute Return R6	-2.1	-3.7	-1.7	0.9	-1.0	1.3	--	--	3.7	-2.5	1.7	0.4	Mar-16
<i>HFRI Relative Value (Total) Index</i>	1.1	1.5	3.9	5.8	3.7	4.4	4.6	5.1	5.1	7.7	-0.3	6.5	
<i>Multialternative MStar MF Rank</i>	90	88	83	73	79	85	--	--	67	88	12	83	
Wells Fargo Adv Absolute Return Instl	-2.4	-1.7	3.0	6.3	2.5	3.1	--	--	12.6	3.0	-4.6	1.4	Mar-15
<i>HFRI Fund of Funds Composite Index</i>	0.8	1.0	5.5	6.0	2.0	3.5	2.9	1.4	7.8	0.5	-0.3	2.1	
Diamond Hill Long-Short Y	0.4	-1.6	0.7	8.0	4.0	6.0	7.3	4.6	6.0	10.5	-1.4	4.1	Mar-15
<i>HFRX Equity Hedge Index</i>	-0.9	0.2	6.3	7.2	1.7	3.0	1.7	-0.4	10.0	0.1	-2.3	1.6	
<i>Long-Short Credit Mstar MF Rank</i>	50	92	64	1	19	1	1	1	10	10	42	15	
Brookfield Global Listed Real Estate I	4.6	0.2	5.1	4.0	5.6	7.4	--	--	10.1	6.3	-1.4	3.7	Jul-17
<i>FTSE NAREIT Developed</i>	5.1	0.4	5.6	2.9	5.7	6.0	6.4	4.9	10.4	4.1	-0.8	3.8	
<i>Global Real Estate MStar MF Rank</i>	30	66	86	51	52	21	--	--	81	10	72	77	
<b>Total Fixed Income</b>	<b>0.3</b>	<b>-0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>1.3</b>	<b>1.5</b>	<b>1.6</b>	<b>--</b>	<b>2.4</b>	<b>1.6</b>	<b>0.8</b>	<b>1.9</b>	<b>Jun-10</b>
<i>Total Fixed Income Benchmark</i>	0.2	-0.3	0.0	0.1	0.9	1.2	1.3	2.2	1.3	1.6	0.8	1.5	
JPMorgan Core Bond	-0.2	-1.4	-0.2	-0.2	1.7	2.1	2.6	4.0	3.8	2.3	0.7	-1.6	Aug-17
<i>BBgBarc US Aggregate TR</i>	-0.2	-1.6	-0.4	-0.4	1.7	2.3	2.6	3.7	3.5	2.6	0.6	-1.7	
<i>Intermediate-Term Bond MStar MF Rank</i>	40	41	50	76	64	76	71	68	57	83	23	54	
YSU Intermediate-Term Bond	0.0	-1.0	-0.4	-0.2	1.1	1.5	2.0	3.4	2.4	2.0	0.5	3.5	Mar-04
<i>BBgBarc US Govt/Credit Int TR</i>	0.0	-1.0	-0.6	-0.4	1.2	1.6	1.9	3.1	2.1	2.1	1.1	3.2	
<i>Intermediate-Term Bond MStar MF Rank</i>	22	18	62	77	95	94	94	90	94	90	34	86	
PGIM High Yield R6	1.2	0.7	3.1	7.7	5.9	5.8	--	--	7.8	15.3	-2.6	5.6	Dec-16
<i>BBgBarc US High Yield TR</i>	1.0	0.2	2.6	7.5	5.5	5.5	6.3	8.2	7.5	17.1	-4.5	5.1	
<i>High Yield Bond MStar MF Rank</i>	15	22	28	25	8	12	--	--	27	30	38	14	



## PERFORMANCE REPORT CARD

	Ending June 30, 2018								Calendar Years				
	2018 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Inception (%)	Inception Date
YSU Short Term Bond	0.4	0.0	0.3	0.4	0.8	0.8	0.9	1.8	1.1	1.1	0.6	2.4	Mar-04
ICE BofAML 1-3 Yrs US Corp & Govt TR	0.3	0.1	0.3	0.3	0.7	0.9	0.9	1.7	0.9	1.3	0.7	2.2	
Short-Term Bond MStar MF Rank	35	56	75	87	93	94	96	88	89	90	46	78	
Lord Abbett Short Duration Income I	0.6	0.3	1.3	2.0	2.1	2.3	2.8	4.2	2.7	4.0	0.9	0.6	Mar-18
ICE BofAML 1-3 Yrs US Corp & Govt TR	0.3	0.1	0.3	0.3	0.7	0.9	0.9	1.7	0.9	1.3	0.7	0.3	
Short-Term Bond MStar MF Rank	16	27	20	16	14	11	7	4	14	12	23	16	
Vanguard Short-Term Bond Instl	0.2	-0.3	-0.2	-0.1	0.8	1.1	--	--	1.2	1.5	1.0	1.1	Dec-11
BBgBarc US Govt/Credit 1-5 Yr. TR	0.2	-0.3	-0.2	0.0	0.8	1.1	1.2	2.2	1.3	1.6	1.0	1.1	
Short-Term Bond MStar MF Rank	73	79	96	99	93	83	--	--	88	84	15	94	
DFA Five-Yr Global Fxd-Inc I	0.6	0.2	0.6	0.2	1.5	1.8	2.0	3.0	2.0	1.8	1.4	1.8	Jun-13
Citi WGBI 1-5 Yr Hdg USD	0.2	0.4	0.9	0.6	1.2	1.3	1.5	2.1	1.1	1.5	1.0	1.3	
World Bond MStar MF Rank	6	17	57	76	87	59	46	65	93	80	3	59	
<b>Total Cash &amp; Cash Equivalents</b>	<b>0.4</b>	--	--	--	--	--	--	--	--	--	--	<b>0.4</b>	<b>Mar-18</b>
ICE BofAML 91 Days T-Bills TR	0.5	0.8	1.4	0.9	0.7	0.4	0.3	0.4	0.9	0.3	0.0	0.5	
PNC Govt MMkt	0.4	--	--	--	--	--	--	--	--	--	--	0.4	Mar-18
ICE BofAML 91 Days T-Bills TR	0.5	0.8	1.4	0.9	0.7	0.4	0.3	0.4	0.9	0.3	0.0	0.5	

- Total Policy Benchmark = 45% ICE BofAML 91 Days T-Bills TR / 17% ICE BofAML 1-3 Yrs US Corp & Govt TR / 11% BBgBarc US Govt/Credit Int TR / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE

- Total Operating & Short Term Benchmark = 95% ICE BofAML 91 Days T-Bills TR / 5% BBgBarc US Govt 1-3 Yr TR

- Total Long Term/ Reserves Fund Benchmark = 27% Russell 3000 / 8% MSCI EAFE / 15% Total Alternatives Benchmark / 30% ICE BofAML 1-3 Yrs US Corp & Govt TR / 20% BBgBarc US Govt/Credit Int TR

- Vanguard Mid Cap Index Benchmark = 100% CRSP US Mid Cap TR USD

- Total Alternatives Benchmark = 25% FTSE NAREIT Developed / 75% HFRI Fund of Funds Composite Index

- Total Fixed Income Benchmark = 64% ICE BofAML 1-3 Yrs US Corp & Govt TR / 36% BBgBarc US Govt/Credit Int TR



# PERFORMANCE REPORT CARD- ENDOWMENT ASSETS

	Ending June 30, 2018								Calendar Years				Inception Inception Date
	2018 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Inception (%)	
YSU Endowment Fund	0.9	-0.4	7.7	8.6	7.7	8.0	--	--	14.2	8.5	-0.3	8.0	Jun-13
60/40 S&P 500/BBgBarc US Aggregate	2.0	1.0	8.3	9.3	7.9	9.0	9.0	7.8	14.2	8.3	1.3	9.0	
Kilcawley Center	2.3	1.4	8.6	9.5	7.8	6.9	--	--	13.8	4.9	-5.3	6.9	Jun-13
60/40 S&P 500/BBgBarc US Aggregate	2.0	1.0	8.3	9.3	7.9	9.0	9.0	7.8	14.2	8.3	1.3	9.0	
The Alumni License Plate Account Endowment Fund	2.3	1.4	8.5	9.1	7.5	7.4	--	--	10.3	13.8	-0.2	7.4	Jun-13
60/40 S&P 500/BBgBarc US Aggregate	2.0	1.0	8.3	9.3	7.9	9.0	9.0	7.8	14.2	8.3	1.3	9.0	
Vanguard Balanced Index Adm	2.3	1.4	8.6	9.6	7.7	8.8	8.9	8.0	13.9	8.8	0.5	8.4	Jun-17
Vanguard Balanced Benchmark	2.3	1.4	8.6	9.6	7.7	8.9	9.0	7.8	13.8	8.8	0.7	8.4	

## FEE REVIEW: ENDOWMENT ASSETS

	Market Value as of 6/30/2018	Estimated Annual Fee (\$)	Annual Manager Fee	Manager	Morningstar Institutional Average Fee (%)
<b>YSU Endowment</b>					
YSU Endowment Fund Fees	\$10,167,970	\$50,840	0.50%	Huntington	n/a
<b>Kilcawley Center</b>					
Vanguard Balanced Index Fund Adm	\$110,235	\$77	0.07%	-	0.84%
Trustee Fee (PNC)		\$33	0.03%		
<b>Total Kilcawley Center Fees</b>		<b>\$110</b>	<b>0.10%</b>		
<b>Alumni License Plate</b>					
Vanguard Balanced Index Fund Adm	\$559,514	\$392	0.07%	-	0.84%
Trustee Fee (PNC)		\$168	0.03%		
<b>Total Alumni License Plate Fees</b>		<b>\$560</b>	<b>0.10%</b>		

## ENDOWMENT HOLDINGS

- YSU Endowment (Huntington)
  - Equity Mutual Funds – 11% (6 Mutual Funds & ETFs)
  - Stocks – 62% (45-60 Stocks, U.S. Large Cap)
  - Fixed Income Mutual Funds – 2% (Federated Total Return Bond)
  - Bonds – 17% (9 Bonds, U.S. Corporate / Gov't / Asset Backed Debt)
  - Cash – 8%
- Kilcawley (PNC)
  - Vanguard Balanced Index Fund (Adm) – 100%
- Alumni License Plate (PNC)
  - Vanguard Balanced Index Fund (Adm) – 100%



## ALTERNATIVE TO WHAT?

- Alternatives = Non-Traditional
- Not a traditional buy-and-hold equity or fixed income strategy
- Often have one or more of the following characteristics:

Trading Mechanism	Liquidity Constraints
<ul style="list-style-type: none"> <li>• Ability to engage in proprietary and complex trading strategies as a driver of returns</li> <li>• Exposure to public and private markets</li> <li>• Use of short positions, derivatives, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Monthly, quarterly, annual liquidity, and sometimes multiple-year lockups</li> <li>• Potential for illiquidity premium</li> </ul>
Fee Structure	Alpha-focused
<ul style="list-style-type: none"> <li>• Performance incentive fee</li> <li>• Hurdle rates</li> <li>• High watermark</li> </ul>	<ul style="list-style-type: none"> <li>• Assumes inefficient markets</li> <li>• Active management (indexing is often not possible)</li> <li>• Beta is not easily identifiable or often reduced in order to enhance alpha</li> </ul>

Alpha is the difference between a fund's expected returns based on its beta and its actual returns.

Beta is the sensitivity of the investment to its market.

## ALTERNATIVES: MYTHS AND TRUTHS

- ***Alternatives are a single asset class (Myth)***

Alternatives encompass many different strategies, vehicles, and characteristics.

Strategies exhibit different risk/return profiles. It is prudent to diversify among alternative investments.

- ***Alternatives increase the risk of an overall portfolio (Myth)***

Among the wide variety of strategies within alternatives, some carry higher risks than traditional asset classes, while most actually help reduce volatility.

Strategies are carefully selected for construction of an alternatives allocation to help diversify systematic(market) risk in an overall portfolio.

- ***Alternatives are a black-box with no transparency (Myth)***

Alternative managers offer different levels of transparency across the spectrum. Most alternative investments offer full transparency of investment process and holdings. Some less liquid alternatives restrict full transparency to protect proprietary systems that may give the manager an edge over their competitors.

- ***Alternatives are not regulated (Myth)***

Although many alternative investments are not regulated under Investment Company Act of 1940 for their product offerings, most entities themselves are registered with the Securities and Exchange Commission (SEC) in the United States, and internationally, with regulatory bodies in their respective countries. It is important to note, however, that regulation by itself is no guarantee of “safety,” and all investments require thorough due diligence.



## ALTERNATIVE INVESTMENT STRATEGY DESCRIPTIONS

Investment Name	Strategy Description
<b>Standard Life Global Absolute Return (John Hancock Global Absolute Return)</b>	Standard Life is an insurance company in Scotland. The Global Absolute Return Strategy (GARS) got its start from an internal investment team that was managing the employee pension fund. The strategy was eventually opened to outside investors but Standard Life is still the largest investor with around \$5 billion. The team places 20-30 “trades” that must: have a thesis of how they will make money over 3-5 years, add material diversification, and be liquid. The approach is risk controlled in that most of the trades are paired as the team is looking to exploit a spread. For example, the portfolio has a trade that is long U.S. technology and short U.S. small cap.
<b>GMO Benchmark Free (Wells Fargo Absolute Return)</b>	The Wells Fargo Fund is managed by Grantham, Mayo, Van Otterloo (GMO). The firm is headquartered in Boston and has over \$100B in AUM. The strategy has broad flexibility to invest in any type of asset, anywhere in the world. The firm is known for being a pessimistic investor and are often looking at opportunities where others are not. The team is looking to identify and exploit mispricing among all investable asset classes on the belief that asset classes can become grossly overvalued or undervalued and will eventually revert back to their fair value.
<b>Diamond Hill Long-Short</b>	Diamond Hill Capital Group is a Columbus, Ohio-based registered investment adviser managing \$20 billion in assets. Diamond Hill believes that a company’s intrinsic value, based on a discounted cash flow model, is independent of its stock price. The team uses five-year discounted cash flow analysis as its primary methodology to determine whether there is a discrepancy between the current market price and its estimate of intrinsic value. Their long/short opportunities are determined by this intrinsic value method. The portfolio typically has a 50-60% net long market exposure.
<b>Brookfield Global Rest Estate</b>	The Brookfield Listed Global Real Estate Securities fund is a REIT strategy that focuses on the developed countries around the globe. They utilize proprietary valuation tools to screen securities and conduct fundamental, bottom-up research to identify mispricing within their investment universe of core REIT companies. The portfolio is concentrated with 40 to 60 securities with the top ten holdings representing 30% to 40% of the portfolio, and benefits from Brookfield’s global real estate footprint and extensive private real estate experience.
<b>JP Morgan Strategic Income</b>	The JPMorgan Strategic Income Opportunities Fund is part of JPMorgan Asset Management’s fund platform. The Fund is managed out of JPMorgan’s offices in Boston, but leverages assets in the firm’s offices in Cincinnati, Columbus, New York, and London. The fund uses an opportunistic approach to take advantage of what it views as the best opportunities given the prevailing market environment. The fund can invest in a wide range of fixed income sectors, including traditional high yield, non-agency mortgages, municipals, credit default swaps, and direct real estate lending. The fund is also tactical with duration exposure and is permitted to have negative duration.



## CHALLENGES FACING TRADITIONAL ASSETS

- Yield has fallen while investors' need for yield has not changed, and equity return prospects are uncertain, especially with current high multiples.
- It is prudent to find opportunities through actively managed alpha sources rather than through general beta exposure.
- The use of alternatives expands the breadth of investments outside the traditional set to find alpha opportunities and additional diversification benefits.

1980 – 2008	2008 – Present	<i>Expectations</i>
High interest rates, respectable yields in fixed income	Persistently and historically low yields for bonds	<i>Low for longer, the yield situation remains challenged for bonds</i>
Interest rates fell consistently throughout, helping to appreciate bond prices	Interest rates continued to fall, compressing already low yields	<i>A rising rate environment</i>
With good U.S. GDP growth, the expectation of economic growth and equity market expansion remained robust	There are growth challenges on the Main Street. Highly accommodative central bank policies around the world ease liquidity and help to appreciate asset prices in capital markets	<i>The current high multiples keep long-term equity return expectations modest.</i>



## JPMORGAN STRATEGIC INCOME (RECOMMENDATION)

### Parent

The JPMorgan Strategic Income Opportunities Fund is part of JPMorgan Asset Management's fund platform. JPMorgan Asset Management is 100% owned by JPMorgan Bank (NYSE – "JPM"). The firm currently has over \$2.0 trillion under advisement and over ~\$1.4 trillion in asset under management across a number of fund platforms. The Strategic Income Opportunities Fund is managed out of JPMorgan's offices in Boston, but leverages assets in the firm's offices in Cincinnati, OH, Columbus, OH, New York, NY and London, UK.

Bill Eigen and his team managed just over \$12.6B in the Strategic Income Opportunities strategy. They have seen ~\$350MM in net inflows.

### People

The JPMorgan Absolute Return and Opportunistic Fixed Income Team is led by Bill Eigen, who has over 23 years fixed income experience, and previously managed fixed income assets at Fidelity. Mr. Eigen is supported by 6 sector specialist PMs (up from 4 last year): Charlie McCarthy – Global Credit Long/Short, Scott Kraus – CRE/CMBS, Richard Meth – CRE/CMBS, Jarod Olivenstein (who replaced Dan Kim) - macro, and Jeffrey Wheeler – Securitized Products. In addition to the sector specialists, the team is supported by a head trader – Jared Sherman (who has significant experience in credit derivatives), and 4 analytical research analysts.

### Process

The Senior Investing and Operating Committee, which includes Mr. Eigen, meets regularly to discuss macro and sector level themes and opportunities and makes top down allocation decisions across a wide spectrum of fixed income assets, including traditional high yield credits, credit default swaps and direct real estate lending. The group splits investment ideas into two areas – beta themes and alpha themes. Beta themes allocations are based on expected returns, market sentiment, absolute and relative valuations. Investment themes are either managed by other teams in JPMorgan's fixed income group (for example – traditional high yield bonds managed in Cincinnati) or by Mr. Eigen's team in Boston (for example Commercial Real Estate lending, CDS trading ideas) depending on the underlying skills required to implement the idea. Assets are typically held in cash (usually between 20-80% of the portfolio) until a compelling investment idea is identified. The fund seeks to generate returns of 200 – 800 bps above the Merrill Lynch 91-day T-Bill Index.

# JPMORGAN STRATEGIC INCOME

Portfolio (as of 12/31/17)		Notes
Yield	2.92%	
Duration	0.26 years	
Average maturity	4.66 years	
Fees	0.77%	
Vehicle	Mutual Fund	JSOSX
Inception	10/10/2008	
<b>Sectors</b>		
Cash Allocation	50%	The fund's cash balance continues to rise, as credit spreads tighten further and volatility remains low (cash is now yielding >1.25%).
High Yield Bond	16%	Decreasing since October of 2016, from 45% to 24%. Moving a bit down in quality (selling BB's and buying lower, with a bulk in "B" and a slight overweight to "CCC" and below) due to better risk-return profile.
Bank Loans	8%	Allocation remains constant.
Commercial Real Estate Loans	2%	There are still about 8 loans left in the portfolio with an average coupon of 7%. They expect these loans to roll off within the next year, since they foresee refinancing due to compression of spreads above LIBOR.
CMBS/ABS	2.5%	
Non-Agency MBS	15%	
Credit Relative Value	5%	
Emerging Market Debt	0.1%	

Portfolio (as of 12/31/17)	
<b>Short Positions</b>	
CMBS/ABS	-0.8%
Agency MBS	-0.1%
Credit Relative Value	-6.4%



# RISK/RETURN CHARACTERISTICS

## Zephyr StyleADVISOR

Zephyr StyleADVISOR: Hartland and Company

### Custom Table

November 2008 - June 2018: Summary Statistics

	Return	Standard Deviation	Sharpe Ratio	Alpha vs. Market	Beta vs. Market
JPMorgan Strategic Income Opports I	4.97%	4.17%	1.13	2.49%	0.18
Bloomberg Barclays U.S. Universal	4.73%	3.05%	1.46	4.64%	0.01
Bloomberg Barclays U.S. Aggregate	4.16%	3.16%	1.23	4.56%	-0.02
S&P 500	13.68%	13.42%	1.00	0.00%	1.00

### Calendar Year Return

As of June 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD
JPMorgan Strategic Income Opports I	19.06%	5.28%	-0.05%	8.18%	3.03%	0.13%	-2.20%	9.18%	3.34%	1.13%
Bloomberg Barclays U.S. Universal	8.60%	7.16%	7.40%	5.53%	-1.35%	5.56%	0.43%	3.91%	4.09%	-1.67%
Bloomberg Barclays U.S. Aggregate	5.93%	6.54%	7.84%	4.21%	-2.02%	5.97%	0.55%	2.65%	3.54%	-1.62%
S&P 500	26.46%	15.06%	2.11%	16.00%	32.39%	13.69%	1.38%	11.96%	21.83%	2.65%

Source: Zephyr.

## CORRELATION TO TRADITIONAL ASSET CLASSES

Zephyr StyleADVISOR

Zephyr StyleADVISOR: Hartland and Company

### Correlation Matrix: Returns vs. S&P 500

November 2008 - June 2018

	(1)	(2)	(3)	(4)
1) JPMorgan Strategic Income Opports I	1.00			
2) Bloomberg Barclays U.S. Universal	0.29	1.00		
3) Bloomberg Barclays U.S. Aggregate	0.14	0.98	1.00	
4) S&P 500	0.58	0.04	-0.10	1.00

Source: Zephyr.

## EXECUTIVE SUMMARY

**Capital Markets:** Notable dispersion across regions. U.S. Equities were a top performer (+3.4%), Emerging Market equities the worst (-8.0%) as growth momentum slowed, political risks “reemerged” and the US\$ strengthened.

**“Tariffed”:** A burgeoning trade war between the world’s two largest economies remained the big story throughout the quarter and was a driver of volatility. Concerns remain over the lack of a clear path to any near-term resolution.

**Economic Growth:** Global growth continued during Q2 with most global business indicators (“soft data”) indicating expansion, though the momentum shifted back to the U.S. from other regions. Q2 U.S. GDP growth expectations reflect a rebound to near 4%. China appears to be losing some momentum over trade and a government clampdown on credit and shadow banking.

**The Fed:** The Fed delivered on a widely expected 0.25% rate hike in June taking the funds rate to 1.75-2.0%. The Fed forecasts four hikes for 2018 with two already in the books. Core inflation finally hit the Fed’s target of 2% in May after years of underwhelming gains.

**Central Banks:** Less accommodative global monetary policy ahead. Fed hiking, European Central Bank winding down bond buying program, Bank of Japan sticking to easy policy.

**Valuations:** U.S. economic growth has yet to translate into capital market performance in 2018 as multiples contracted and credit spreads widened. Valuations declined based largely on strong earnings with U.S. equity valuations near long-term averages, 16.5x.

**Earnings:** 2018 S&P 500 earnings estimates reflect a 20.4% y-o-y increase on 7.5% revenue growth. Q1-18 growth was 24.6%.

**Oil:** Oil rallied amid concerns on global supply shortages. This may lead to increased domestic production but also result in higher inflation and squeeze profits in certain sectors.

**Fixed Income:** Continued flattening of the U.S. Treasury yield curve as yields on short to intermediate rose more than long bonds. Credit spreads ticked wider driven by technical factors rather than fundamentals.

**Risks:** Tighter U.S. monetary policy, fears of weaker growth in Emerging Markets, and escalating trade tensions are testing investors’ confidence and may drive portfolio de-risking.



# HISTORICAL ASSET CLASS RETURNS

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Q1 2018	Q2 2018	2018
Glb Bond 9.4%	Em Mkt 78.5%	REITs 27.6%	US Bonds 7.8%	REITs 20.1%	Sm/Mid 36.8%	REITs 27.2%	REITs 2.3%	Sm/Mid 17.6%	Em Mkt 37.3%	Glb Bond 4.5%	REITs 8.3%	Sm/Mid 5.5%
US Bonds 5.2%	Hi Yld 57.5%	Sm/Mid 26.7%	REITs 7.3%	Em Mkt 18.2%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	Hi Yld 17.5%	Dev Intl 25.0%	Em Mkt 1.4%	Sm/Mid 5.7%	Large Cap 2.7%
Cash 2.1%	Sm/Mid 34.4%	Em Mkt 18.9%	Glb Bond 5.2%	Dev Intl 17.3%	Dev Intl 22.8%	Sm/Mid 7.1%	US Bonds 0.6%	Large Cap 12.0%	Large Cap 21.8%	Cash 0.4%	Large Cap 3.4%	Hdg Fnds 1.2%
Hdg Fnds -21.4%	Dev Intl 31.8%	Hi Yld 15.2%	Hi Yld 4.4%	Sm/Mid 17.9%	Hdg Fnds 9.0%	US Bonds 6.0%	Cash 0.1%	Em Mkt 11.2%	Sm/Mid 16.8%	Hdg Fnds 0.3%	Hi Yld 1.0%	REITs 1.1%
Hi Yld -26.4%	REITs 27.5%	Large Cap 15.1%	Large Cap 2.1%	Large Cap 16.0%	Hi Yld 7.4%	Hdg Fnds 3.4%	Hdg Fnds -0.3%	REITs 9.3%	Glb Bond 9.3%	Sm/Mid -0.2%	Hdg Fnds 0.9%	Cash 0.8%
Sm/Mid -36.8%	Large Cap 26.5%	Dev Intl 7.8%	Cash 0.1%	Hi Yld 15.6%	REITs 3.2%	Hi Yld 2.5%	Dev Intl -0.8%	US Bonds 2.7%	REITs 9.3%	Large Cap -0.8%	Cash 0.5%	Hi Yld 0.1%
Large Cap -37.0%	Hdg Fnds 11.5%	US Bonds 6.6%	Sm/Mid -2.5%	Hdg Fnds 4.8%	Cash 0.1%	Cash 0.0%	Sm/Mid -2.9%	Glb Bond 1.9%	Hdg Fnds 7.8%	Hi Yld -0.9%	US Bonds -0.2%	Glb Bond -0.6%
REITs -37.3%	US Bonds 5.9%	Glb Bond 6.1%	Hdg Fnds -5.7%	US Bonds 4.2%	US Bonds -2.0%	Em Mkt -2.2%	Hi Yld -4.6%	Dev Intl 1.0%	Hi Yld 7.5%	US Bonds -1.5%	Dev Intl -1.2%	US Bonds -1.6%
Dev Intl -43.4%	Glb Bond 4.4%	Hdg Fnds 5.7%	Dev Intl -12.1%	Glb Bond 1.8%	Em Mkt -2.6%	Glb Bond -2.8%	Glb Bond -4.8%	Hdg Fnds 0.5%	US Bonds 3.5%	Dev Intl -1.5%	Glb Bond -4.9%	Dev Intl -2.8%
Em Mkt -53.3%	Cash 0.2%	Cash 0.1%	Em Mkt -18.4%	Cash 0.1%	Glb Bond -4.9%	Dev Intl -4.5%	Em Mkt -14.9%	Cash 0.3%	Cash 0.9%	REITs -6.7%	Em Mkt -8.0%	Em Mkt -6.7%

Past performance is no guarantee of future results. Asset classes represented by: Large Cap – S&P 500 Index; Sm/Mid – Russell 2500 Index; Dev Intl – MSCI EAFE Index; Em Mkt – MSCI Emerging Markets Index; Hi Yld – Bank of America Merrill Lynch U.S. High Yield Master II; US Bonds – Barclays Capital U.S. Aggregate; Glb Bond – Barclays Capital Global Treasury ex US; REITs – NAREIT ALL REITs; Hdg Fnds – HFRI FOF: Diversified Index; Cash – Merrill Lynch 91-day Tbill. Data as of 6/30/2018. Source: Zephyr Associates.



## ECONOMIC PROJECTIONS

### Federal Reserve Board Members and Bank Presidents

		2018	2019	2020	Longer Run*
GDP	June 2018	2.8%	2.4%	2.0%	1.8%
	March 2018	2.7%	2.4%	2.0%	1.8%
	Dec. 2017	2.5%	2.1%	2.0%	1.8%
Unemployment	June 2018	3.6%	3.5%	3.5%	4.5%
	March 2018	3.8%	3.6%	3.6%	4.5%
	Dec. 2017	3.9%	3.9%	4.0%	4.6%
Core PCE Inflation	June 2018	2.0%	2.1%	2.1%	
	March 2018	1.9%	2.1%	2.1%	
	Dec. 2017	1.9%	2.0%	2.0%	
Federal Funds Rate	June 2018	2.4%	3.1%	3.4%	2.9%
	March 2018	2.1%	2.9%	3.4%	2.9%
	Dec. 2017	2.1%	2.7%	3.1%	2.8%
# of Implied 25 bps Rate Hikes	June 2018	4	3	1	
	March 2018	3	3	2	
	Dec. 2017	3	2	2	

\*Longer-run projections: The rates to which a policymaker expects the economy to converge over time – maybe in five or six years – in the absence of further shocks and under appropriate monetary policy.

# U.S. ECONOMY: A SNAPSHOT

*While rhetoric around tariffs escalated, the fundamentals of the U.S. economy continued to run. The markets, however, were difficult to please despite double-digit earnings growth, and remained skeptical under the uncertainty presented by the global trade spat. In the meantime, inflation continued to firm up, manufacturing stayed on the growth course, and the yield curve continued to flatten with the Fed's rate hike on the short end.*

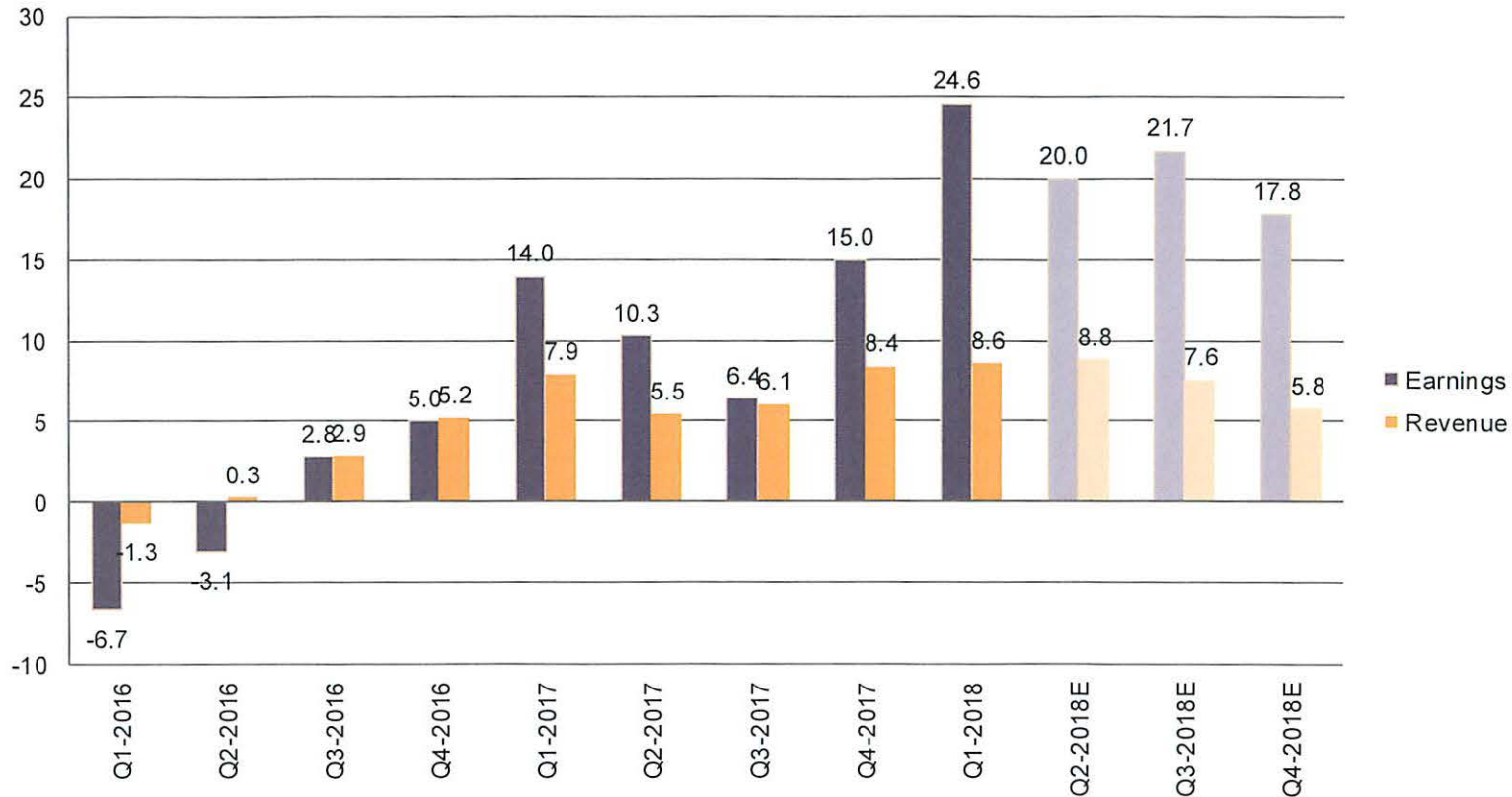


Source: Hartland. The inner sections of the concentric hendecagon imply earlier stages of the economic cycle, with outer parts indicating later stages.



## S&P 500 EARNINGS & REVENUE GROWTH

### S&P 500 Earnings & Revenue Quarterly Growth



- Robust earnings growth and outlook for 2018
  - 1Q earnings growth of 24.6% was one of the strongest quarters recorded in the past decade
  - Earnings growth led by the Energy, Materials, Technology and Telecom sectors
  - Expectations for Q2 & Q3 earnings growth remain nearly as strong
- Revenue growth expectations are softening for the second half of the year



# SYNCHRONIZED GLOBAL GROWTH TAKES A PAUSE

	July 16	Aug 16	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17	June 17	July 17	Aug 17	Sep 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
World	51.7	51.5	51.7	53.1	53.2	53.6	53.9	53.5	53.8	53.7	53.8	53.7	53.6	54.0	54.0	54.0	54.1	54.4	54.6	54.8	53.3	53.9	54.0	54.2
U.S.	54.6	51.4	56.0	54.3	55.9	56.4	56.4	57.6	55.4	57.5	56.9	57.4	54.2	55.7	59.9	59.9	57.5	56.3	59.8	59.6	58.9	56.9	58.6	59.2
Canada	51.9	51.1	50.3	51.1	51.5	51.8	53.5	54.7	55.5	55.9	55.1	54.7	55.5	54.6	55.0	54.3	54.4	54.7	55.9	55.6	55.7	55.5	56.2	57.1
U.K.	47.4	53.5	53.7	54.8	55.3	56.7	55.2	53.8	54.9	56.2	54.3	53.8	54.1	54.0	54.1	55.8	54.8	54.9	53.4	54.5	52.5	53.2	54.5	55.2
Eurozone	53.2	52.9	52.6	53.3	53.9	54.4	54.4	56.0	56.4	56.8	56.8	56.3	55.7	55.7	56.7	56.0	57.5	58.1	58.8	57.1	55.2	55.1	54.1	54.9
Germany	55.3	53.3	52.8	55.1	55.0	55.2	54.8	56.1	57.1	56.7	57.4	56.4	54.7	55.8	57.7	56.6	57.3	58.9	59.0	57.6	55.1	54.6	53.4	54.8
France	50.1	51.9	52.7	51.6	51.4	53.1	54.1	55.9	56.8	56.6	56.9	56.6	55.6	55.2	57.1	57.4	60.3	59.6	59.6	57.3	56.3	56.9	54.2	55.0
Italy	52.2	51.9	51.1	51.1	53.4	52.9	52.8	54.8	54.2	56.8	55.2	54.5	56.2	55.8	54.3	53.9	56.0	56.5	59.0	56.0	53.5	52.9	52.9	53.9
Greece	48.7	50.4	49.2	48.6	48.3	49.3	46.6	47.7	46.7	48.2	49.6	50.5	50.5	52.2	52.8	52.1	52.2	53.1	55.2	56.1	55.0	52.9	54.2	53.5
Ireland	56.5	56.9	54.8	54.0	55.5	58.4	59.3	57.8	56.9	61.1	59.5	57.6	57.0	58.2	57.6	56.0	57.7	60.2	59.0	56.8	53.7	57.6	57.7	58.1
Japan	50.1	49.8	48.9	51.3	52.0	52.8	52.3	52.2	52.9	52.6	53.4	52.9	51.8	51.9	51.7	53.4	52.2	52.2	52.8	52.2	51.3	53.1	51.7	52.1
Australia	56.4	46.9	49.8	50.9	54.2	55.4	51.2	59.3	57.5	59.2	54.8	55.0	56.7	54.1	53.1	53.1	54.3	55.5	54.2	54.3	55.4	55.3	55.6	52.9
EM	51.5	51.3	51.1	51.8	51.4	51.9	51.9	52.1	52.5	51.9	52.2	51.5	51.5	52.1	51.8	51.5	51.9	53.0	53.6	53.3	52.3	52.4	52.2	52.4
China	51.9	51.8	51.4	52.9	52.9	53.5	52.2	52.6	52.1	51.2	51.5	51.1	51.9	52.4	51.4	51.0	51.6	53.0	53.7	53.3	51.8	52.3	52.3	53.0
India	52.4	54.6	52.4	55.4	49.1	47.6	49.4	50.7	52.3	51.3	52.5	52.7	46.0	49.0	51.1	51.3	50.3	53.0	52.5	49.7	50.8	51.9	50.4	53.3
Russia	53.5	52.9	53.1	53.7	55.8	56.6	58.3	55.4	56.3	55.3	56.0	54.8	53.4	54.2	54.8	53.2	56.3	56.0	54.8	55.2	53.2	54.9	53.4	52.0
Brazil	46.4	44.4	46.1	44.9	45.3	45.2	44.7	46.6	48.7	50.4	50.4	48.5	49.4	49.6	51.1	49.5	48.9	48.8	50.7	53.1	51.5	50.6	49.7	47.0
S. Africa	49.9	49.8	50.7	50.5	50.8	51.6	51.3	50.5	50.7	50.3	50.2	49.0	50.1	49.8	48.5	49.6	48.8	48.4	49.0	51.4	51.1	50.4	50.0	50.9

- While the U.S. economy remains strong, the rate of growth in the outside world began to come off their peaks
- Out of the 15 countries listed, all 14 are reporting PMI figures above 50, which indicates expansion. Various emerging markets countries, including China, are dealing with slower growth and currency fluctuations.
- U.S. is showing the strongest expansion with a PMI of 59.2, and Germany, France, and Ireland are leading the group in the Eurozone. Brazil continued to contract, while India continued to expand at a faster rate.

Source: Bloomberg. The above numbers represent the composite Purchasing Managers Index (PMI), unless otherwise indicated. PMI indicates the health of the economy, where a number above "50" indicates expansion and below "50" implies contraction. World (JPMorgan); U.S. (ISM); Canada, Eurozone, Germany, France, Greece, EM, Russia, Brazil (Markit); U.K. (Markit/CIPS); Italy (Markit/ADACI); Ireland (Investec); Japan, India (Nikkei); Australia (Australian Industry Group); China (Caixin); South Africa (Standard Bank). All numbers are "composite," both manufacturing and non-manufacturing, except for Canada, Greece, and Australia. The indexes for those countries are for the manufacturing sector, based on availability.



## INTERNATIONAL RETURNS & CURRENCY IMPACT

### Developed Markets (MSCI EAFE)

	USD Return	Local Return	Weighting
AUSTRALIA	5.2%	9.2%	7.0%
AUSTRIA	-10.6%	-5.9%	0.2%
BELGIUM	-6.0%	-0.9%	1.1%
DENMARK	-7.0%	-2.1%	1.7%
FINLAND	1.3%	6.8%	1.0%
FRANCE	-0.5%	4.9%	11.0%
GERMANY	-4.0%	1.2%	9.5%
HONG KONG	-1.2%	-1.2%	3.6%
IRELAND	2.0%	7.4%	0.6%
ISRAEL	10.9%	13.5%	0.5%
ITALY	-7.3%	-2.4%	2.4%
JAPAN	-2.8%	1.2%	24.0%
NETHERLANDS	-1.8%	2.9%	3.6%
NEW ZEALAND	5.8%	12.7%	0.2%
NORWAY	2.3%	6.2%	0.7%
PORTUGAL	1.2%	6.6%	0.2%
SINGAPORE	-7.5%	-3.8%	1.3%
SPAIN	-4.4%	0.7%	3.1%
SWEDEN	-3.7%	2.9%	2.6%
SWITZERLAND	-2.7%	0.9%	7.8%
UNITED KINGDOM	3.0%	9.4%	18.0%

Quarter	-1.2%	3.5%	100.0%
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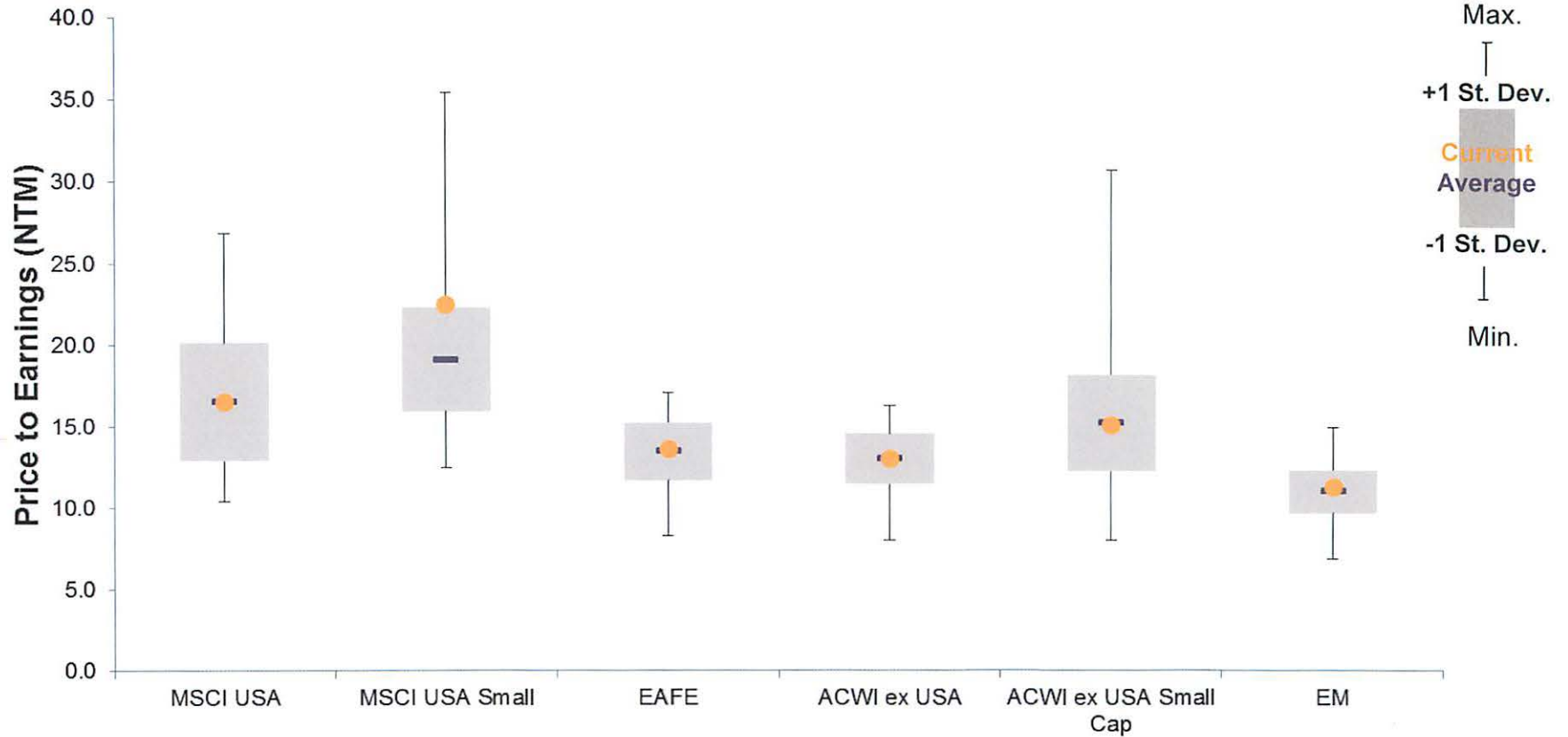
### Emerging Markets (MSCI EM)

	USD Return	Local Return	Weighting
BRAZIL	-26.4%	-14.8%	5.8%
CHILE	-11.5%	-4.5%	1.1%
CHINA	-3.5%	-3.5%	32.7%
COLOMBIA	6.7%	12.2%	0.5%
CZECH REPUBLIC	-5.4%	2.1%	0.2%
EGYPT	-8.1%	-6.7%	0.1%
GREECE	-2.2%	3.0%	0.3%
HUNGARY	-14.4%	-4.9%	0.3%
INDIA	-0.6%	4.4%	8.6%
INDONESIA	-12.5%	-9.0%	1.9%
KOREA	-9.2%	-5.0%	14.6%
MALAYSIA	-11.4%	-7.5%	2.3%
MEXICO	-3.6%	3.8%	2.9%
PERU	-3.2%	-3.2%	0.4%
PHILIPPINES	-11.2%	-9.2%	0.9%
POLAND	-11.6%	-3.4%	1.1%
RUSSIA	-6.0%	1.3%	3.5%
SOUTH AFRICA	-11.9%	1.9%	6.6%
TAIWAN	-6.3%	-2.0%	11.6%
THAILAND	-15.0%	-9.9%	2.2%
TURKEY	-25.9%	-14.3%	0.8%

Quarter	-8.0%	-3.5%	100.0%
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A stronger US Dollar was a headwind to both Developed and Emerging markets in the second quarter; 4.7% and 4.5%

## GLOBAL EQUITY VALUATIONS

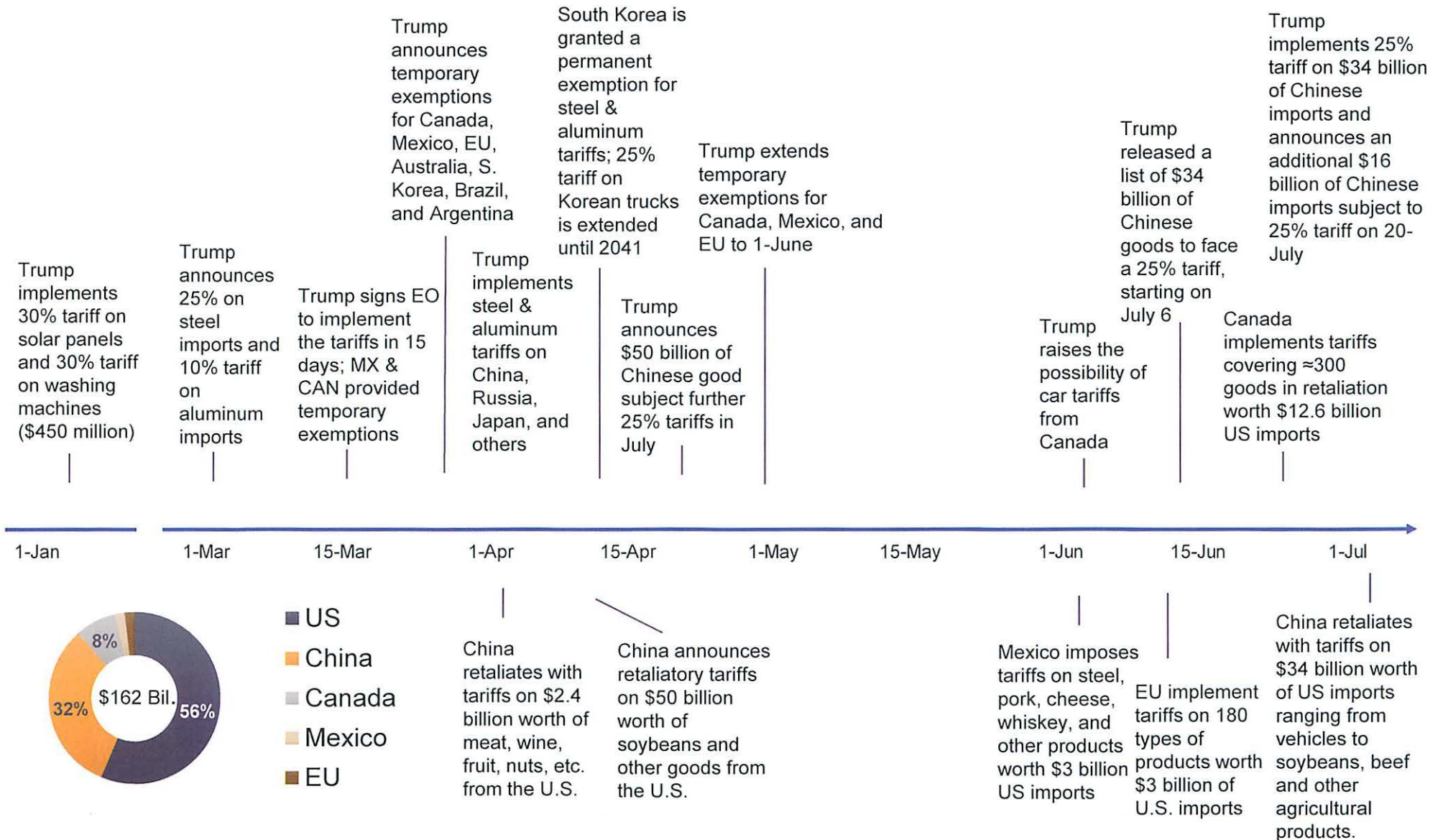


	MSCI USA	MSCI USA Small	MSCI EAFE	MSCI ACWI ex USA	MSCI ACWI ex USA Small	MSCI EM
Current P/E (NTM)	16.5	22.5	13.6	13.0	15.1	11.3
Average P/E (NTM)	16.5	19.1	13.5	13.0	15.2	11.0

Source: MSCI. Data as of 6/30/2018. Average taken over full index history.



## TARIFFS: \$162 BILLION AND COUNTING



Source: Peterson Institute for International Economics & Hartland.  
As of 7/06/2018.



## DEFINITIONS AND DISCLOSURES

Information provided is general in nature, is provided for informational purposes only, and should not be construed as investment advice. Any views expressed are based upon the data available at the time the information was produced and are subject to change at any time based on market or other conditions. Hartland disclaims any liability for any direct or incidental loss incurred by applying any of the information in this presentation. All investment decisions must be evaluated as to whether it is consistent with their investment objectives, risk tolerance, and financial situation.

Past performance is no guarantee of future results. Investing involves risk, including risk of loss. Diversification does not ensure a profit or guarantee against loss.

All indices are unmanaged and performance of the indices includes reinvestment of dividends and interest income and, unless otherwise noted, an investment cannot be made in any index.

Although bonds generally present less short-term risk and volatility than stocks, bonds do contain interest rate risk (as interest rates rise, bond prices usually fall and vice versa) and the risk of default, or the risk that an issuer will be unable to make income or principal payments. Additionally, bonds and short-term investments entail greater inflation risk, or the risk that the return of an investment will not keep up with increases in the prices of goods and services, than stocks.

Lower-quality debt securities generally offer higher yields, but also involve greater risk of default or price changes due to potential changes in the credit quality of the issuer. Any fixed income security sold or redeemed prior to maturity may be subject to loss.

The municipal market is volatile and can be significantly affected by adverse tax, legislative, or political changes and by the financial condition of the issuers of municipal securities. Interest rate increases can cause the price of a debt security to decrease. A portion of the dividends you receive may be subject to federal, state, or local income tax or may be subject to the federal alternative minimum tax. Generally, tax-exempt municipal securities are not appropriate holdings for tax advantaged accounts such as IRAs and 401(k)s.

Stock markets, especially foreign markets, are volatile and can decline significantly in response to adverse issuer, political, regulatory, market, or economic developments. Foreign securities are subject to interest-rate, currency-exchange-rate, economic, and political risks, all of which are magnified in emerging markets. The securities of smaller, less well-known companies can be more volatile than those of larger companies. Growth stocks can perform differently from the market as a whole and other types of stocks and can be more volatile than other types of stocks. Value stocks can perform differently than other types of stocks and can continue to be undervalued by the market for long periods of time.

The commodities industry can be significantly affected by commodity prices, world events, import controls, worldwide competition, government regulations, and economic conditions.

Changes in real estate values or economic conditions can have a positive or negative effect on issuers in the real estate industry, which may affect your investment.

### Index Definitions:

The **S&P 500 Index** is a broad-based market index, comprised of 500 large-cap companies, generally considered representative of the stock market as a whole. The **S&P 400 Index** is an unmanaged index considered representative of mid-sized U.S. companies. The **S&P 600 Index** is a market-value weighted index that consists of 600 small-cap U.S. stocks chosen for market size, liquidity and industry group representation.

The **Russell 1000 Value Index**, **Russell 1000 Index** and **Russell 1000 Growth Index** are indices that measure the performance of large-capitalization value stocks, large-capitalization stocks and large-capitalization growth stocks, respectively. The **Russell 2000 Value Index**, **Russell 2000 Index** and **Russell 2000 Growth Index** are indices that measure the performance of small-capitalization value stocks, small-capitalization stocks and small-capitalization growth stocks, respectively. The **Russell Midcap Value Index**, **Russell Midcap Index** and **Russell Midcap Growth Index** are indices that measure the performance of mid-capitalization value stocks, mid-capitalization stocks and mid-capitalization growth stocks, respectively. The **Russell 2500 Value Index**, **Russell 2500 Index** and **Russell 2500 Growth Index** measure the performance of small to mid-cap value stocks, small to mid-cap stocks and small to mid-cap growth stocks, respectively, commonly referred to as "smid" cap. The **Russell 3000 Value Index**, **Russell 3000 Index** and **Russell 3000 Growth Index** measure the performance of the 3,000 largest U.S. value stocks, 3,000 largest U.S. stocks and 3,000 largest U.S. growth stocks, respectively, based on total market capitalization.

The **Wilshire 5000 Index** represents the broadest index for the U.S. equity market, measuring the performance of all U.S. equity securities with readily available price data. The **Wilshire Micro Cap Index** is a market capitalization-weighted index comprised of all stocks in the Wilshire 5000 Index below the 2,501<sup>st</sup> rank.

The **MSCI EAFE (Europe, Australasia, Far East) Index** is designed to measure developed market equity performance, excluding the U.S. and Canada. The **MSCI Emerging Markets (EM) Index** is designed to measure global emerging market equity performance. The **MSCI World Index** is designed to measure global developed market equity performance. The **MSCI World Index Ex-U.S. Index** is designed to measure the equity market performance of developed markets and excludes the U.S. The **MSCI Europe Index** is an unmanaged index considered representative of developed European countries. The **MSCI Japan Index** is an unmanaged index considered representative of stocks of Japan. The **MSCI Pacific ex. Japan Index** is an unmanaged index considered representative of stocks of Asia Pacific countries excluding Japan.

The **U.S. 10-Year Treasury Yield** is generally considered to be a barometer for long-term interest rates.

**Merrill Lynch 91-day T-bill index** includes U.S. Treasury bills with a remaining maturity from 1 up to 3 months.

The **Barclays Capital® (BC) U.S. Treasury Index** is designed to cover public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC Aggregate Bond Index** is an unmanaged, market value-weighted performance benchmark for investment-grade fixed-rate debt issues, including government, corporate, asset-backed, and mortgage-backed securities with maturities of at least one year. The **BC U.S. Credit Bond Index** is designed to cover publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements; bonds must be SEC-registered to qualify. The **BC U.S. Agency Index** is designed to cover publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government. The **BC CMBS Index** is designed to mirror commercial mortgage-backed securities of investment-grade quality (Baa3/BBB-/BBB- or above) using Moody's, S&P, and Fitch respectively, with maturity of at least one year. The **BC MBS Index** covers agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARMs) issued by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The **BC U.S. Municipal Bond Index** covers the U.S. dollar-denominated, long-term tax-exempt bond market with four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds. The **BC TIPS Index** is an unmanaged market index made up of U.S. Treasury Inflation Linked Index securities. The **BC U.S. Government Bond Index** is a market value-weighted index of U.S. Government fixed-rate debt issues with maturities of one year or more. The **BC ABS Index** is a market value-weighted index that covers fixed-rate asset-backed securities with average lives greater than or equal to one year and that are part of a public deal; the index covers the following collateral types: credit cards, autos, home equity loans, stranded-cost utility (rate-reduction bonds), and manufactured housing. The **BC Global Aggregate Index** is composed of three sub-indices; the U.S. Aggregate Index, Pan-European Aggregate Index, and the Asian-Pacific Aggregate Index. In aggregate the index is created to be a broad-based measure of the performance of investment grade fixed rate debt on a global scale. The **BC US Corporate Long Aa Index** is an unmanaged index representing public obligations of U.S. corporate and specified foreign debentures and secured notes with a remaining maturity of 10 years or more. The **BC U.S. Corporate High-Yield Index** measures the market of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds. The **BC Intermediate Corporate Index** includes dollar-denominated debt from U.S. and non-U.S. industrial, utility, and financial institutions issuers with a duration of 1-10 years. The **BC U.S. Treasury Long Index** is an unmanaged index representing public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC U.S. Government 10 Year Treasury Index** measures the performance of U.S. Treasury securities that have a remaining maturity of less than 10 years. The **BC BAA Corporate Index** measures the performance of the taxable Baa rated fixed-rate U.S. dollar-denominated corporate bond market. The **BC Global Treasury ex US Index** includes government bonds issued by investment-grade countries outside the United States, in local currencies, that have a remaining maturity of one year or more and are rated investment grade or higher. The **BC Emerging Market Bond Index** is an unmanaged index that total returns for external-currency-denominated debt instruments of the emerging markets. The **BC U.S. Securitized Bond Index** is a composite of asset-backed securities, collateralized mortgage-backed securities (ERISA-eligible) and fixed rate mortgage-backed securities. The **BC Quality Distribution AAA, B, and CC-D Indices** measure the respective credit qualities of U.S. corporate and specified foreign debentures and secured notes. The **BC Universal Index** represents the union of the U.S. Aggregate Index, the U.S. High Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, and the non-ERISA portion of the CMBS Index. The **BC 1-3 Year Government Credit Index** is an unmanaged index considered representative of performance of short-term U.S. corporate bonds and U.S. government bonds with maturities from one to three years. The **BC Long-term Government Index** is an unmanaged index reflecting performance of the long-term government bond market. The **BC Intermediate Aggregate Index** measures the performance of intermediate-term investment grade bonds. The **BC Intermediate 1-3 Year Government/Credit Index** measures the performance of U.S. Dollar denominated U.S. Treasuries, government-related and investment grade U.S. corporate securities that have a remaining maturity of greater than one year and less than ten years.

The **Bank of America ML U.S. High Yield Index** tracks the performance of below investment grade US Dollar Denominated corporate bonds publicly issued in the US market. Qualifying bonds have at least one year remaining term to maturity, are fixed coupon schedule and minimum outstanding of \$100 million.



**Signal Identification Model (SIM)** - The balance between fixed income and equity securities is guided by a proprietary, quantitative modeling technique we call "SIM". SIM is a four factor model that measures short-term under or over-valuation of equity markets. When SIM is negative, for example, the Investment Review Committee (IRC) may recommend that Consultants reduce equity ratios within prescribed ranges in client portfolios; when positive, that Consultants increase equity ratios within prescribed ranges. Other judgments, such as short-term, relative weights between different asset classes often come from fundamental assessments of IRC members. Unemployment – Total labor force seasonally adjusted (U.S. Bureau of Labor Statistics); ISM - An index based on surveys of more than 300 manufacturing firms by the Institute of Supply Management; Spread – indicates the difference in yield between Moody's AAA corporate bonds and Moody's BAA corporate bonds; S&P Earnings Yield – earnings per share for the most recent 12-month period divided by the current market price per share of the stocks in the S&P 500.

**Hartland Research Portfolio (HPR)** - Our Optimal Long-Term Strategic Asset Allocation, called the Hartland Research Portfolio, sets forth our best thinking on the mix of different asset classes; it is the benchmark we use in considering appropriate asset allocation for all client portfolios. The Hartland Research Portfolio is developed with two major inputs. One is quantitative, based on the Black-Litterman model, and one is qualitative, based on the input of the professionals on our Investment Research Committee (IRC). The Hartland & Co. research team begins with the Black-Litterman model, a mathematical model that seeks asset allocations that are optimal; those that produce the best results with the lowest level of volatility or risk. Black-Litterman is more dynamic than other models and builds on traditional mean-variance techniques to create stable and consistent return forecasts for a set of asset classes. The IRC assesses the quantitative output from Black-Litterman and integrate it with their own fundamental or qualitative judgments. The result is the Hartland Research Portfolio, which combines quantitative and qualitative inputs and our capital market projections.

The **HFRI Funds of Funds Index (HFRI FOF)** is an equal weighted index designed to measure the performance of hedge fund of fund managers. The more than 800 multi-strategy constituents are required to have at least \$50 million in assets under management and a trading track record spanning at least 12 months. The index includes both on and offshore funds and all returns are reported in USD

The **NCREIF Property Index (NPI)** represents quarterly time series composite total rate of return measure of a very large pool of individual commercial real estate properties acquired in the private market. The index represents apartments, hotels, industrial properties, office buildings and retail properties which are at least 60% occupied and owned or controlled, at least in part by tax-exempt institutional investors or its designated agent. In addition these properties that are included must be investment grade, non-agricultural and income producing and all development projects are excluded. Constituents included in the NPI be valued at least quarterly, either internally or externally, using standard commercial real estate appraisal methodology. Each property must be independently appraised a minimum of once every three years.

The **FTSE NAREIT All REITs Index** is a market capitalization-weighted index that is designed to measure the performance of all tax-qualified Real Estate Investment Trusts (REITs) that are listed on the New York Stock Exchange, the American Stock Exchange, or the NASDAQ National Market List.

The **Dow Jones U.S. Select Real Estate Securities Index** is a float-adjusted market capitalization-weighted index of publicly traded real estate securities such as real estate investment trusts (REITs) and real estate operating companies (REOCs).

The **Cambridge PE Index** is a representation of returns for over 70% of the total dollars raised by U.S. leveraged buyout, subordinated debt and special situation managers from 1986 to December 2007. Returns are calculated based on the pooled time weighted return and are net of all fees. These pooled means represent the end to end rate of return calculated on the aggregate of all cash flows and market values reported by the general partners of the underlying constituents in the quarterly and annual reports.

The **University of Michigan Consumer Sentiment Index** is a consumer confidence index published monthly by the University of Michigan and Thomson Reuters. The index is normalized to have a value of 100 in December 1964.

**VIX** - The CBOE Volatility Index (VIX) is based on the prices of eight S&P 500 index put and call options.

**Gold** – represented by the dollar spot price of one troy ounce

**WTI Crude** – West Texas Intermediate is a grade of crude oil used as a benchmark in oil pricing.

The **Affordability Index** measures of a population's ability to afford to purchase a particular item, such as a house, indexed to the population's income

The **Homeownership %** is computed by dividing the number of owner-occupied housing units by the number of occupied housing units or households.

**HFRI Emerging Markets: Asia ex-Japan, Global Index, Latin America Index, Russia/Eastern Europe Index:** The constituents of the HFRI Emerging Markets Indices are selected according to their Regional Investment Focus only. There is no Investment Strategy criteria for inclusion in these indices. Funds classified as Emerging Markets have a regional investment focus in one of the following geographic areas: Asia ex-Japan, Russia/Eastern Europe, Latin America, Africa or the Middle East. **HFRI EH: Energy/Basic Materials** strategies which employ investment processes designed to identify opportunities in securities in specific niche areas of the market in which the Manager maintains a level of expertise which exceeds that of a market generalist. **HFRI EH: Equity Market Neutral** strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. **HFRI EH: Quantitative Directional** strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. **HFRI EH: Short-Biased** strategies employ analytical techniques in which the investment thesis is predicated on assessment of the valuation characteristics on the underlying companies with the goal of identifying overvalued companies. **HFRI EH: Technology/Healthcare** strategies employ investment processes designed to identify opportunities in securities in specific niche areas of the market in which the Manager maintain a level of expertise which exceeds that of a market generalist in identifying opportunities in companies engaged in all development, production and application of technology, biotechnology and as related to production of pharmaceuticals and healthcare industry. **HFRI ED: Distressed Restructuring** strategies which employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings. **HFRI ED: Merger Arbitrage** strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction. **HFRI ED: Private Issue/Regulation D** strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are primarily private and illiquid in nature. **HFRI Macro: Systematic Diversified** strategies have investment processes typically as function of mathematical, algorithmic and technical models, with little or no influence of individuals over the portfolio positioning. **HFRI RV: Fixed Income - Asset Backed** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a fixed income instrument backed physical collateral or other financial obligations (loans, credit cards) other than those of a specific corporation. **HFRI RV: Fixed Income - Convertible Arbitrage** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a convertible fixed income instrument. **HFRI RV: Fixed Income - Corporate** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a corporate fixed income instrument. **HFRI RV: Multi-Strategies** employ an investment thesis is predicated on realization of a spread between related yield instruments in which one or multiple components of the spread contains a fixed income, derivative, equity, real estate, MLP or combination of these or other instruments. **HFRI RV: Yield Alternatives Index** strategies employ an investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread contains a derivative, equity, real estate, MLP or combination of these or other instruments. Strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager.

The **Consumer Price Index (CPI)** is an inflationary indicator that measures the change in the cost of a fixed basket of products and services, including housing, electricity, food, and transportation. The CPI is published monthly. Unless otherwise noted, the CPI figure is as of the date this report is created.

The **Credit Suisse Leveraged Loan Index** is a market value-weighted index designed to represent the investable universe of the U.S. dollar-denominated leveraged loan market.

The **Dow Jones-UBS Commodity Index** measures the performance of the commodities market. It consists of exchange-traded futures contracts on physical commodities that are weighted to account for the economic significance and market liquidity of each commodity.



**YOUNGSTOWN  
STATE  
UNIVERSITY**

**RESOLUTION TO APPROVE  
HARTLAND'S RECOMMENDATION TO REBALANCE THE  
NON-ENDOWMENT LONG-TERM INVESTMENT POOL**

**WHEREAS**, the Investment Subcommittee of the Board of Trustees of Youngstown State University is responsible for identification of asset classes, strategic asset allocation, acceptable asset ranges above and below the strategic asset allocation, and selecting investment managers, pursuant to University policy 3356-03-10; and

**WHEREAS**, the Investment Subcommittee has consulted with the University's investment advisors and recommends rebalancing the Non-Endowment Long-Term Investment Pool.

**NOW, THEREFORE, BE IT RESOLVED**, that the Investment Subcommittee of the Board of Trustees of Youngstown State University does hereby approve the rebalance, as shown on page 17 of the September 5, 2018, Investment Subcommittee Agenda item C.1.a.

**Board of Trustees Meeting  
September 6, 2018  
YR 2019-**



## REBALANCE RECOMMENDATION (ACTION)

Avg Yield = 2.0%

	Market Value as of 7/30/2018		Change	New Allocation		Policy Target	Policy Range	Difference
	\$	%		\$	%			
<b>Total Operating &amp; Short Term</b>	<b>\$14,280,010</b>	<b>100.0%</b>		<b>\$14,280,010</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Operating Assets</b>	<b>\$13,209,116</b>	<b>92.5%</b>		<b>\$13,209,116</b>	<b>92.5%</b>		60-100%	
JPMorgan 100% U.S. Treas. MM Instl	\$85,237	0.6%		\$85,237	0.6%			
Star Plus*	\$2,513,740	17.6%		\$2,513,740	17.6%			
Star Ohio*	\$10,610,139	74.3%		\$10,610,139	74.3%			
<b>Short-Term Assets</b>	<b>\$1,070,895</b>	<b>7.5%</b>		<b>\$1,070,895</b>	<b>7.5%</b>		0-40%	
Vanguard Short-Term Federal Adm	\$1,070,895	7.5%		\$1,070,895	7.5%			
<b>Total Long Term Reserves Pool</b>	<b>\$53,729,583</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$53,729,583</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Domestic Equity</b>	<b>\$15,202,964</b>	<b>28.3%</b>		<b>\$15,202,964</b>	<b>28.3%</b>	<b>27.0%</b>	20-35%	1.3%
<b>Large Cap</b>	<b>\$10,795,560</b>	<b>20.1%</b>		<b>\$10,795,560</b>	<b>20.1%</b>			
Vanguard Instl Index	\$10,795,560	20.1%		\$10,795,560	20.1%			
<b>Small/Mid Cap</b>	<b>\$4,407,404</b>	<b>8.2%</b>		<b>\$4,407,404</b>	<b>8.2%</b>			
Vanguard Mid Cap Index Inv	\$2,216,809	4.1%		\$2,216,809	4.1%			
Loomis Sayles Small Growth Instl	\$1,116,461	2.1%		\$1,116,461	2.1%			
Victory Integrity Small Cap Value Y	\$1,074,135	2.0%		\$1,074,135	2.0%			
<b>International Equity</b>	<b>\$4,777,825</b>	<b>8.9%</b>		<b>\$4,277,825</b>	<b>8.0%</b>	<b>8.0%</b>	0-15%	0.0%
William Blair International Growth I	\$2,392,434	4.5%	-\$250,000	\$2,142,434	4.0%			
Dodge & Cox International Stock	\$2,385,391	4.4%	-\$250,000	\$2,135,391	4.0%			
<b>Total Equity</b>	<b>\$19,980,789</b>	<b>37.2%</b>		<b>\$19,480,789</b>	<b>36.3%</b>	<b>35.0%</b>	25-45%	1.3%
<b>Alternatives</b>	<b>\$7,930,675</b>	<b>14.8%</b>		<b>\$8,101,818</b>	<b>15.1%</b>	<b>15.0%</b>	0-20%	0.1%
<b>Jhancock Global Absolute Return R6</b>	\$1,728,857	3.2%	-\$1,728,857	\$0	0.0%			
<b>JPMorgan Strategic Income Opps Fund</b>	\$0	0.0%	\$2,100,000	\$2,100,000	3.9%			
Wells Fargo Adv Absolute Return I	\$2,340,529	4.4%	-\$200,000	\$2,140,529	4.0%			
Diamond Hill Long-Short Y	\$2,438,258	4.5%	-\$250,000	\$2,188,258	4.1%			
Brookfield Global Real Estate	\$1,423,031	2.6%	\$250,000	\$1,673,031	3.1%			
<b>Fixed Income</b>	<b>\$25,748,989</b>	<b>47.9%</b>		<b>\$26,138,989</b>	<b>48.6%</b>	<b>50.0%</b>		
<b>Short Term Fixed Income</b>	<b>\$14,747,945</b>	<b>27.4%</b>		<b>\$15,237,945</b>	<b>28.4%</b>	<b>30.0%</b>	25-45%	-1.6%
YSU Short Term Bond	\$11,104,655	20.7%		\$11,104,655	20.7%			
Lord Abbett Short Duration	\$1,809,338	3.4%	\$490,000	\$2,299,338	4.3%			Yield = 3.96%
DFA Five-Year Global	\$1,833,951	3.4%		\$1,833,951	3.4%			
<b>Intermediate Fixed Income</b>	<b>\$11,001,044</b>	<b>20.5%</b>		<b>\$10,901,044</b>	<b>20.3%</b>	<b>20.0%</b>	10-30%	0.3%
JPMorgan Core Bond Fund Sel	\$4,615,643	8.6%	-\$100,000	\$4,515,643	8.4%			
YSU Intermediate Term Fixed	\$3,952,716	7.4%		\$3,952,716	7.4%			
Prudential High Yield Bond R6	\$2,432,685	4.5%		\$2,432,685	4.5%			
<b>Total Cash &amp; Cash Equivalents</b>	<b>\$69,130</b>	<b>0.1%</b>		<b>\$7,987</b>	<b>0.0%</b>			
Equity Account Cash	\$69,130	0.1%		\$7,987	0.0%			
<b>Total University Assets</b>	<b>\$68,009,594</b>		<b>-\$61,143</b>	<b>\$68,009,594</b>				

Long-Term Pool Fixed Income Portfolio			
Avg Maturity	Avg Duration	Credit Quality	Yield
3.7	3.2	AA	3.4%

\*As of 6/30/2018